NEW EQUIPMENT DIGEST

A Penton Publication

February, 1961

Volume 26 — Number 2

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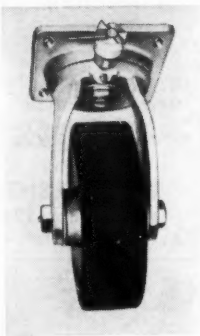
CHECK AND PASS ALONG

✓	NAME	See No.

Use Inquiry Slips—Pages 8 and 104

EQUIPMENT • MATERIALS • PROCESSES • DESIGNS • APPLICATIONS • LITERATURE

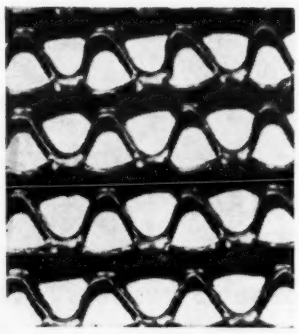
SWIVEL LOCK CASTER
has spring pin stop



One, two, three, and four-position lock models are offered in this line of swivel lock casters. It utilizes the spring-loaded pin stop principle, and has a formed nylon cap over which the mechanism's control lever operates with ease and with positive positioning. ●**Albion Industries, Inc.,** Albion, Mich.

▲ For more details circle **NED-1 B1** on enclosed inquiry slip ▲

RUBBER MESH MATTING
symmetrical pattern is softer



Neotex rubber mesh matting is now offered in a symmetrical pattern in addition to the diamond pattern mesh offered previously in either 3/8 or 1/4 in. wide opening sizes. The newer pattern is softer and more pliable and can be used as a shower mat, providing a colorful, safe, and soft cushion underfoot. Made of neoprene, matting can be sterilized by boiling or autoclaving. It is produced in 26-in. wide 50-ft rolls. ● **Research Products Corp.,** 1015 E. Washington Ave., Madison 3, Wis.

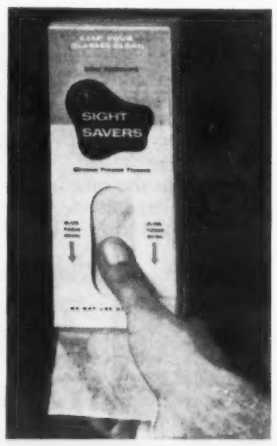
▲ For more details circle **NED-2 B1** on enclosed inquiry slip ▲

THERMOCOUPLES
wide range units for heat treating

Matched and graded 14 - gage wire is used in these improved thermocouples, designed primarily for use with portable Smith-Dolan units for preheating and stress relieving in field and shop welding. Highly accurate in recording maximum as well as low temperatures, they are tested for accuracy to 1900° F. Junction with the work is provided by stainless steel tips enclosing the thermocouple heads. Glass sleeve insulation for induction heating and ceramic spline beads for resistance heating are provided. ● **Electric Arc, Inc.,** 152 Jelliff Ave., Newark 8, N. J.

▲ For more details circle **NED-3 B1** on enclosed inquiry slip ▲

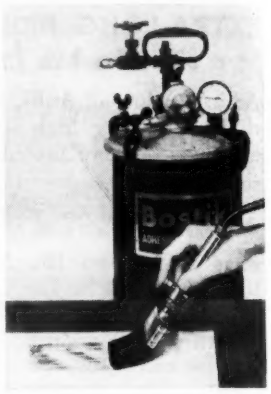
LENS CLEANER
dispenser holds treated tissues



Only one extra-large Sight Saver silicone treated tissue for cleaning and polishing eye glasses is dispensed by this lens cleaning station when the user's thumb is applied as shown. The steel unit is easily mounted with screws or pressure-sensitive adhesive backing. Dispenser is sold for $1. ● **Dow Corning Corp.,** Box 592, Midland, Mich.

▲ For more details circle **NED-4 B1** on enclosed inquiry slip ▲

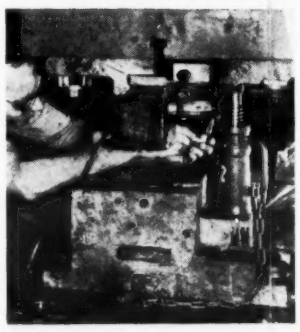
ADHESIVE APPLICATOR
feed to brush is button controlled



Smooth, even coats of solvent or water based adhesives are applied to almost any surface with the Model B Bostik Adhesive Applicator. A 2 or 5-gallon pressure tank feeds adhesives through a 6-ft flexible hose directly into the brush, with the flow accurately controlled by an adjustable pushbutton. As many as three hoses can be connected to a single tank. Separate pushbutton controlled brush handles are priced at $15.50. Complete applicators have prices starting at $114. ● **B. B. Chemical Co.,** 784 Memorial Dr., Cambridge 39, Mass.

▲ For more details circle **NED-5 B1** on enclosed inquiry slip ▲

SAFETY PRESS BLOCK
supports press during die service



Rapid snubbing of upper and lower power press dies for safe cleaning, changing, or sharpening dies, or performing other maintenance tasks is accomplished with the Saf - T - Bloc adjustable press block. Screw jack type block consists of a single base casting housing a steel screw. Top of screw is knurled for easy hand adjustments while on the press. Stop washer prevents raising beyond safe limits. Chain-attached safety plug makes it impossible to use the block before removing the plug from its control panel position. **Duff-Norton Co.,** Jack Div., Gateway Four, Pittsburgh 22, Pa.

▲ For more details circle **NED-6 B1** on enclosed inquiry slip ▲

TOOL BALANCERS & HOSE COUPLERS
for pneumatically operated tools

Accidental tool droppage is prevented by this pneumatic tool balancer which also minimizes operator fatigue and speeds production. Balancer is usable anywhere in shop and hooks easily to any overhead beam or on ceiling. Features include fast reel return, easy tension adjustment, safety declutching, straight-line action, adjustable cable stops, smooth operation, and simple cable replacement. Offered as an allied accessory for portable air tools as well as other air line services, line of air hose couplers includes sizes for 1/4, 3/8, and 1/2-in. diameter hoses. They assure maximum flow with minimum pressure drop. ● **Airetool Mfg. Co.,** 328 S. Center St., Springfield, Ohio.

▲ For more details circle **NED-7 B1** on enclosed inquiry slip ▲

DUST MOP TREATMENT
promotes dust pick-up, sanitation

Dust mops and cloths treated with Gripdust spray treatment will pick up dust as if magnetized, helping to keep it out of the air and promoting sanitation. Treatment is sprayed onto mop or cloth from a 16-oz aerosol container and dries instantly. It has a refreshing aroma and contains a detergent which facilitates subsequent laundering of mops and cloths. ● **C. B. Dolge Co.,** Westport, Conn.

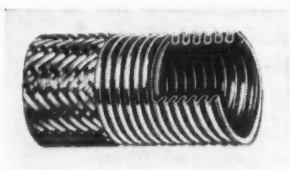
▲ For more details circle **NED-8 B1** on enclosed inquiry slip ▲

THREAD-LOOSENING SPRAY
frees tight, rusted, seized parts

Packaged in a 16-oz pushbutton aerosol container for easy application, Mechanic's Thread Loosener (Easy-Spray) quickly penetrates rust and corrosion to free tight, rusted, or seized parts, linkages, hinges, fasteners, and valves. The lubricant is nongumming and can be used under all climatic conditions, even in salt atmospheres. Free sample is offered. ● **Whitmore Mfg. Co.,** 3816 Iron Court, Cleveland 4, Ohio.

▲ For more details circle **NED-9 B1** on enclosed inquiry slip ▲

METAL HOSE
sizes range from 1/4 to 1 1/4 in.



Industrial maintenance and original equipment are areas of use for Hi-Flex metal hose. It is made in 1/4 to 1 1/4-in. sizes, braided or unbraided, and is suitable for hydraulic, pneumatic, and cryogenic service. Hose has a rubber lining and a single longitudinal weld, and smooth helical convolutions make for easy cleaning. Suggested working pressure in the 1/4-in. size is as high as 4500 psi with a static bend radius of 1.03 in. ● **Flexonics Corp.,** 1315 S. Third Ave., Maywood, Ill.

▲ For more details circle **NED-10 B1** on enclosed inquiry slip ▲

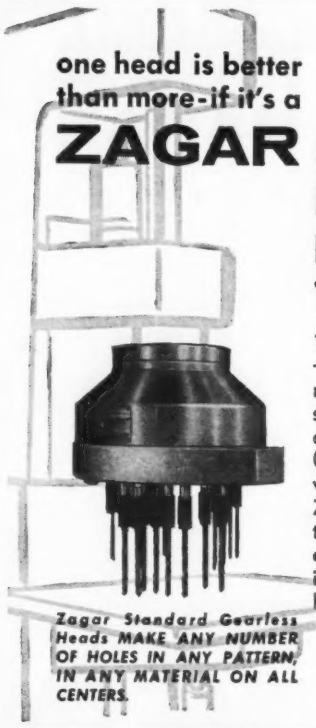
LOW-FOAMING FLOOR CLEANER
for use with scrubbers and vacuums

A fast-acting liquid synthetic cleaner, Lo-Foam is especially adapted for use with scrubbing machines and vacuum cleaners. A foam inhibiting additive breaks down any sustained foam so that liquid is readily picked up. In addition to being effective on floors, cleaner is also usable on walls, windows, plastic, furniture, doors, and metal partitions. It leaves no film or residue, attacks all dirt, and is diluted 20-to-1 for use. ● **Multi-Clean Products, Inc.,** 2277 Ford Parkway, St. Paul 16, Minn.

▲ For more details circle **NED-11 B1** on enclosed inquiry slip ▲

one head is better than more-if it's a

ZAGAR Head for Drilling, Reaming and Tapping



1 to 1000 holes in one pass—as close as twice drill diameter. Costs decrease as spindles are added. *And,* a variety of hole patterns (or parts) can be produced with *one fixed center head.* Zagar units are adaptable to standard drill presses or are built as a complete installation. Send in your hole problem to Zagar.

Zagar Standard Gearless Heads MAKE ANY NUMBER OF HOLES IN ANY PATTERN, IN ANY MATERIAL ON ALL CENTERS.

Write for Manual "N-2" for engineering data.

23880 LAKELAND BLVD. • CLEVELAND 23, OHIO

Zagar INCORPORATED

USE MORE SPINDLES TO DO MORE WORK

▲ For more details circle NED-12 B1 on enclosed inquiry slip ▲

The Story in Back of a Symbol

Begin with a coil for perceiving electrical changes. Add two arrows and convert sensing ability into action. Now, enclose in an ohm ... and you have the signature of the REGOHM® family. These controls, of pure simplicity and reliability, are being used in over a million individual applications throughout the world.

Consider one fast-rising scion of the family tree—the REGOHM Transducer. If you would like to make a mosquito move a mountain, the transducer will bring you close to the summit. A few grams of force causing less than ⅛ inch movement effects direct control at the ¼ kw level.

Performance like this can significantly reduce costs in many control systems: Position, Tension, Weight, Loop, Speed, Pressure and others.

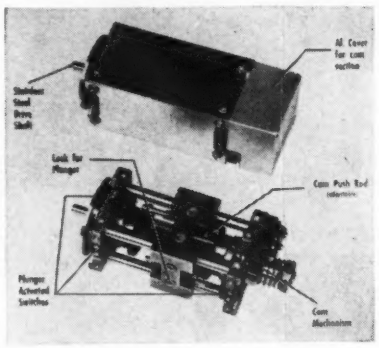
ERC Engineers are ready to assist you with your application. To learn more about the REGOHM Transducer, contact:

ELECTRIC REGULATOR CORPORATION
NORWALK, CONNECTICUT

"leaders in automatic control and regulation"

▲ For more details circle NED-13 B1 on enclosed inquiry slip ▲

50-TURN LIMIT STOP actuates up to eight switches

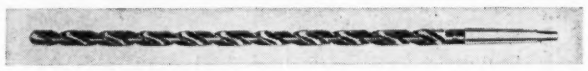


Up to eight limit switches can be actuated discretely at any preselected positions with this 50-turn limit stop assembly. It is offered optionally with 10 or 83 turns, and it is operated by push rod plunger assemblies. Accuracy is within ±5 degrees. By adding a cam actuated switch, accuracy within ±2 degrees is obtained. An antibacklash device and end-position energy absorbing springs are standard. Though developed for use in missile guidance, assemblies are suited for many other precision control functions. • **United Control Systems, Inc.,** 918 Woodley Rd., Dayton 3, Ohio.

▲ For more details circle NED-14 B1 on enclosed inquiry slip ▲

EXTRA-LONG DRILLS sizes to 1½ in., lengths to 23½ in.

Added to line of drills, reamers, and carbide tools are these extra-long high speed steel drills for deep-hole drilling or where inaccessibility is a problem. Diameters range from No. 52 wire gage to 1½ in. with lengths to 23½ in. Larger diameters and longer lengths can be requested. • **Whitman & Barnes,** 40600 Plymouth Rd., Plymouth, Mich.



▲ For more details circle NED-15 B1 on enclosed inquiry slip ▲

STEEL STRAPPING SEAL has high impact strength

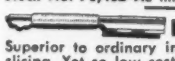
High friction mastic coating on the inside area of the Microgrip crimp-type steel strapping seal "bites through" the slippery strap coating to provide a strong friction bond between the metal surfaces. It combines high joint strength with high impact resistance. It is used with painted, painted and waxed, or waxed Magnus and Heavy Duty strapping in 1¼-in. widths. Seal is made in 114G, 22-gage type which is 2¼ in. long and is suited for use with a B-1435 or UB-1435-50 sealer, and in the 107G, 22-gage type with a length of 2 15/16 in. Latter seal is used with the N-1435 pneumatic sealer as well as the two hand-powered models. • **Signode Steel Strapping Co.,** 2600 N. Western Ave., Chicago 47, Ill.

▲ For more details circle NED-16 B1 on enclosed inquiry slip ▲

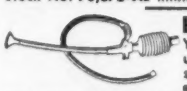
UNUSUAL BARGAINS

ORDER BY STOCK NO. • CHECK — M.O. • SATISFACTION OR MONEY BACK

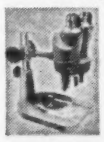
NEW! NEW! NEW! DOUBLE ENDED CLIPS!
Handiest gadgets ever . . . hundreds of uses in industry! Spring action — squeeze to open either end. Use them for drying photographic prints, collating research or design notes for ready reference, displaying plans or sketches at meetings, keeping production orders together, hanging up samples or bulletins, etc. Made of white plastic, 2" long. Durable. Easily cleaned.
Stock No. 70,402-AE ..... Pkg. of 100 — $8.95 Pstpd.



Low-Cost INDUSTRIAL THROWAWAY KNIVES
Superior to ordinary industrial cutting tools for slitting, trimming, cutting or slicing. Yet so low cost (only 3c each!) you can throw them away when dull. No danger or wasted time from changing or sharpening knife blades, or handling razors. Ideal for use on textiles, linoleum, plastic materials, paper products. Length 5" with a 2" razor sharp steel blade.
Stock No. 70,372-AE ..... Pkg. of 100 — $4.00 Pstpd.



HANDY REVERSIBLE MULTI-USE PUMP
You'll find important lab or industrial uses for this unique pump. Reversible feature makes it ideal for siphoning liquids into or out of jars, bottles, containers. Use for sampling, testing, experiments. Fits bottles and cans with openings from 3/4" to 1-1/16". Supplementary adapter plug is included. Consists of bellows plus clear plastic tubings — one 18", the other 12" long.
Stock No. 70,403-AE ..... 3 for $5.95 Pstpd.



STEREO MICROSCOPE — *Terrific Buy! American Made!*
Up to 3" Working Distance—Wide 3 Dimensional Field. Used in production, in research, or at home. 2 sets of objectives on rotating turret. Standard pair of wide field 10× Kellner Eyepieces give you 23 power and 40 power clear, sharp, erect image. Helical rack and pinion focusing. Interpupillary distance adjustable. SO GOOD WE'LL SHIP ON 10-DAY FREE TRIAL.
Stock No. 85,056-AE ..... full price $99.50 f.o.b.

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OVER 1,000 SCIENCE-MATH-OPTICAL ITEMS for industry . . . Many on-the-job helps . . . quality control aids! 144 pages—hundreds of illustrations. Many war surplus bargains! Imported instruments! Lenses, Prisms, Magnifiers, Telescopes, Satellite Scopes, Microscopes, Binoculars, etc. Optics for industry, research labs, experimenters, hobbyists, math learning aids. Write for FREE Catalog AE.

EDMUND SCIENTIFIC CO., Barrington, N. J.

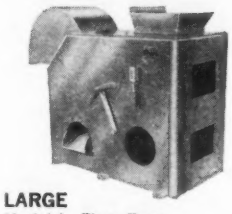
▲ For more details circle NED-17 B1 on enclosed inquiry slip ▲

IF YOU USE AUTOMATIC SCREW MACHINES

in Time, Labor, Increased Production with a

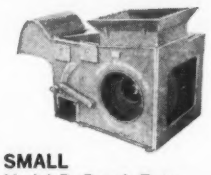
McKENZIE *Automatic Screw Machine* **CHIP SEPARATOR!**

Turn valuable man-hours into profit with a McKenzie Automatic chip separator. Does the work in minutes that takes hours by hand separation. There's a separator for every size shop . . . any size part.



LARGE
Model L, Floor Type
For larger parts, ⅛" to 2" dia., ¼" to 5" lengths.

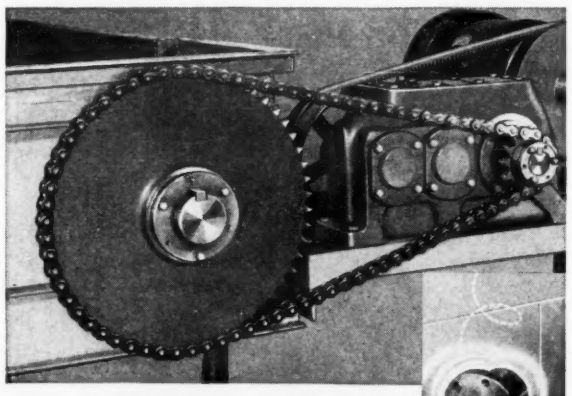
INTERMEDIATE
Model E, Floor Type
For medium sized parts, 1/16" to ¾" dia., ⅛" to 3½" lengths.



SMALL
Model B, Bench Type
For tiniest screw machine parts up to ½" dia., to 1" in length.

THE McKENZIE ENGINEERING COMPANY
Box 336, Newtown, Connecticut

▲ For more details circle NED-18 B1 on enclosed inquiry slip ▲



BROWNING ROLLER CHAIN DRIVES

with unbreakable malleable bushings . . .

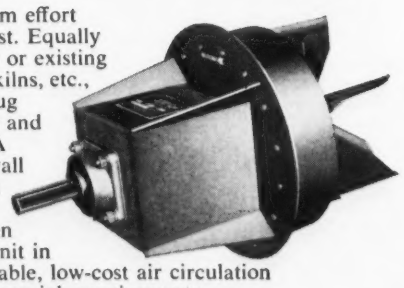
For every application there is only one *best* combination of sprockets and chain. And these exact components for top efficiency are available off-the-shelf when you specify from the extensive Browning line. Included are almost 20,000 size and bore combinations in single, double and triple sprockets . . . using Browning's exclusive interchangeable split taper bushing. Also fixed bore, reboreable and plate sprockets, plus accurately machined roller chain in all standard sizes. Complete data in free Catalog CD102. Ask your Browning distributor or write to **Browning Manufacturing Company, Maysville, Ky.**

Browning . . . . OUR 75th YEAR

▲ For more details circle NED-19 B1 on enclosed inquiry slip ▲

dependable, continuous air-movement in temperatures up to 2000° F.

WITHOUT DUCTWORK!



. . . with minimum effort and minimum cost. Equally adaptable to new or existing furnaces, ovens, kilns, etc., Thermal-Aire Plug Units are quickly and easily installed. A hole in furnace wall to receive the fan wheel is the only requirement. Then simply bolt the unit in place for dependable, low-cost air circulation . . . matched to *your* job requirements.

Write today for Bulletin 960

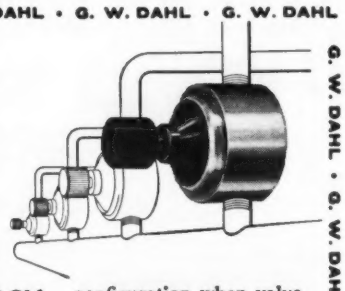
Thermal·aire plug units

Garden City Fan & Blower Co., 835 N. Eighth St., Niles, Mich.

▲ For more details circle NED-20 B1 on enclosed inquiry slip ▲

G. W. DAHL • G. W. DAHL • G. W. DAHL • G. W. DAHL

LOW COST MINIATURE VALVE FOR TIGHT SHUT-OFF!



Dahl FLEXI-PHRAGM packless diaphragm valve ideal for instrument air and other gas and liquid services . . . for isolating and/or testing the pneumatic circuit in process control loops.

Resilient diaphragms (Neoprene, Viton A or Buna) withstand deformation by slurries, trapped impurities (unfiltered service) . . . still provide positive shut-off. Diaphragms resume original configuration when valve is opened and particles washed away . . . even after prolonged closures.

Rated to 500 psig and 180°F. Closing torque only 10 lb.-in. (as rated) in dead end service. Brass bodies with ⅛" or ¼" NPT connections. Panel mounts available.

REQUEST complete data on this low cost, high performance valve. G. W. Dahl Co., Inc., 88 Tupelo St., Bristol, R. I.

G. W. DAHL CO., INC.
SPECIALISTS IN COMPACT VALVES AND CONTROLS

G. W. DAHL • G. W. DAHL • G. W. DAHL • G. W. DAHL

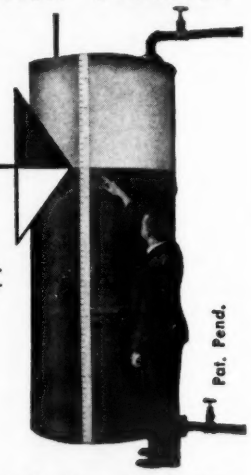
For more details circle NED-21 B1 on enclosed inquiry slip

REINFORCED INERT PLASTIC **J & H TANKS**

FOR ALL CORROSIVES

AND DISTILLED WATER STORAGE

Better than stainless at half the cost!



VISIBLE LEVEL

UNFAILING INVENTORY & BATCHING GAUGE

- √ Standard 110 to 4,000 gal. sizes mass produced for immediate delivery
- √ Horizontal or vertical
- √ Round or special shapes
- √ Excellent translucency
- √ One-piece, leakproof
- √ Sanitary, glass-smooth
- √ Non-contaminating
- √ Fully guaranteed

Used by 100 largest chemical, drug, food, tanning, paper, textile plants. Any size or special shape available; select from many standard models and save money. Outlet sizes and locations to order. Write for bulletin giving sizes, specs and *prices*.

JONES & HUNT INC. 104 Emerson Ave., Gloucester, Mass.

For more details circle NED-22 B1 on enclosed inquiry slip

temperature and pressure extremes require ACHESON MOLY & GRAPHITE-fortified compounds for unparalleled performance

★★★★★★★★★★★★★★★★★★★★★★★★

in: METALWORKING LUBRICANTS

ASSEMBLY AND RUN-IN

MOLD COATINGS

ELECTRICALLY CONDUCTIVE FILMS

PARTING AGENTS

SOLID FILM LUBRICATION

Specific application recommendations and product data available on request.

ACHESON COLLOIDS COMPANY Port Huron, Michigan

For more details circle NED-23 B1 on enclosed inquiry slip

ELECTRONIC GAGING UNIT operates on long-life battery

Consisting of a small gage head and a long-life mercury battery-operated transistorized amplifier meter, this Electro-Probe electronic gaging unit is highly accurate. Any two of six gaging ranges from 0.0002 to 0.010 in. can be combined in the amplifier-meter, providing magnifications up to 11,000X. Correlated scales provide minimum readings from 0.000010 to 0.0005 in. Design of the contact tip compensates for setting of contact arm at any angle up to 20 degrees with the work. Practically frictionless, gage head applies only 2.5 grams pressure to work. • **Federal Products Corp.**, 1144 Eddy St., Providence 1, R. I.

For more details circle NED-24 B1 on enclosed inquiry slip

PAPER SHREDDER destroys confidential data, records

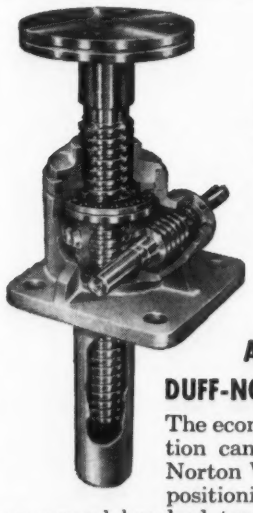
Positive destruction of obsolete but confidential engineering data, blueprints, sales records, sketches, and other records is assured with the Auto-Shred unitized paper shredder. It has a 10-in. feed throat and an automatic feed shredder which is housed in a glass fiber case mounted on a matching metal base with casters. Aluminum bin in the base will hold the equivalent of seven normal size waste baskets. Stapled, pinned, or folded papers are fed through a separate gravity hand feed, and clips and pins are cut without damage to cutter. Geared drive allows use of ⅓-hp motor on any 120-v line. • **Industrial Shredder & Cutter Co.**, 909 Ellsworth Ave., Salem, Ohio.

For more details circle NED-25 B1 on enclosed inquiry slip

WINDOW SCAFFOLD supports 500 lb

Designed to hook over any standard windowsill, the Windowstep tubular steel window scaffold supports over 500 lb-loads on its 11 x 21-in. work platform. Guard rail assures safety, and rubber bumpers at all contact points prevent marring of wall surfaces. The 9-lb unit is priced at $13.85. • **Newark Ladder & Bracket Co.**, Walnut Avenue, Clark, N. J.

For more details circle NED-26 B1 on enclosed inquiry slip



New Economy for Machinery Designers

A STANDARD LINE OF DUFF-NORTON WORM GEAR JACKS

The economies of standardized production can be realized by use of Duff-Norton Worm Gear Jacks for accurate positioning of loads weighing as much as several hundred tons. This standard line of eight jacks ranges from 2 to 100 tons in capacity. When jacks are used in an arrangement, added economy can be realized in raising unevenly distributed loads, since all models now have a uniform raise which permits jacks of varying capacities to operate in unison. Worm gear jacks are furnished with standard raises from 6 to 24 inches. Special raises can also be furnished. Write for Bulletin AD-66-N.

DUFF-NORTON COMPANY

For more details circle NED-27 B1 on enclosed inquiry slip

as low as $49.50

Check the Versa-Tran* for low-cost, accurate, automatic control of

- TEMPERATURE
- PRESSURE
- LIQUID-LEVEL
- HUMIDITY

This inexpensive controller is completely transistorized. Needs no tubes, no warm-ups . . . gives instant reaction. Works with sensors that can be thermisters, probes, resistance bulbs, pressure transducers or humidity elements. Versa-Tran can be used in packaging machines, injection molding, cooking vats, tire recapping, ice cube makers, etc. Models with standard case available as low as $39.50.

* Trademark

Honeywell

First in Control

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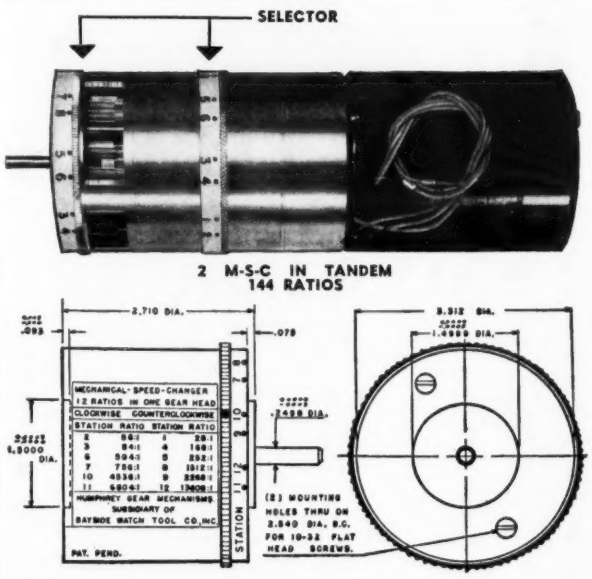

Adjustable SPEED CHANGERS.....

a flip of the dial changes speed ratios

Two Humphrey Mechanical Speed Changers or 2 M-S-C when coupled in tandem provide 144 ratios. It is a direct transmitting gear mechanism, efficient, accurate, dependable. A flip of the dial changes the ratio. Recommended for use in micro-wave transmitting and remote control apparatus, radar, computers, signalling and switching devices, chart drives, servomechanisms, conveyors, and variable controlled automation. It is a valuable device for experimental and development laboratories, research organizations, commercial plants, and industry.

ENGINEERING DATA

1. Input pinion 20T-80P-20° P.A.
2. Aluminum housing anodized black.
3. Stainless steel gears and pinions.
4. Bearings and gears lubricated with Mil. Spec. oil and grease.
5. Ratios of speeds as designated.
6. The mounting conditions are per the design shown; however, a variety of conditions can be accommodated by means of an adapter plate.
7. Units coupled in tandem provide 12, 144, and 1728 different speed variations.
8. Output torque 200 oz.-in. average. Stronger units available on request.
9. Backlash: 30' average.
10. Ratios of standard No. 2 unit:

Clockwise	Counter-clockwise
4.38:1	2.19:1
5.6:1	11.20:1
6.57:1	13.14:1
39.42:1	19.71:1
51.00:1	28.00:1
56.00:1	102.00:1

11. Please consult our Engineering Department for other ratios and sizes or variations.

WRITE TODAY FOR FREE ENGINEERING LITERATURE.

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SUBSIDIARY OF BAYSIDE WATCH TOOL CO., INC.
20-02 Utopia Parkway, Whitestone 57, N. Y. BAyside 4-8300-1

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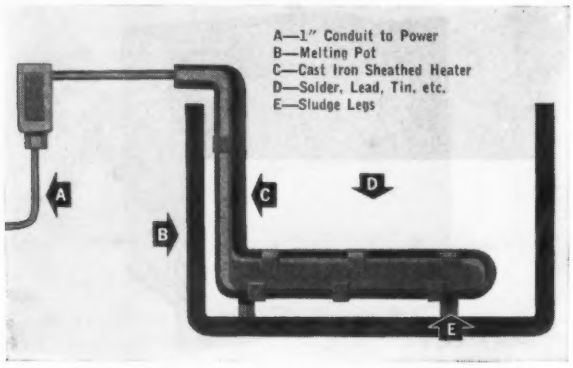

Increase Pot Life, Reduce Dross with Chromalox Immersion Heaters

Melt soft metals economically with quick, efficient Chromalox Electric Immersion Heaters. No underheating or overheating with accurate thermostatic control. Little dross. Far longer pot life than with flame methods. No soot, no flames, no roar. Little if any maintenance. Working temperatures to 950°F. for metals such as solder, lead, tin, type metal and babbitt.

Write for Bulletin PD-106 which gives complete details.

CHROMALOX ELECTRIC HEAT
Edwin L. Wiegand Company WI-2
7509 Thomas Boulevard, Pittsburgh 8, Pa. • Phone: CHurchill 2-6400

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NEW EQUIPMENT DIGEST

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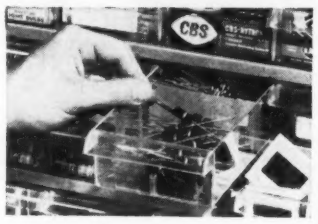
Machining Aluminum on Screw Machines

"Machining Kaiser Aluminum with Automatic Screw Machines" is a 104-page completely revised manual containing the latest field data on this subject. Technical and tooling information applicable to the production of parts is cited. Tables show recommended speeds and feeds, and various tools are charted for quick reference. Available only by writing on letterhead to Kaiser Aluminum Chemical Corp., Technical Publications Dept., Kaiser Center, Oakland 12, Calif.

FREE! NEW CATALOG of A-M Cabinets that organize storage of all small parts



This new catalog shows how the scientific and efficient storage of small parts CUTS COSTS by saving space and time.

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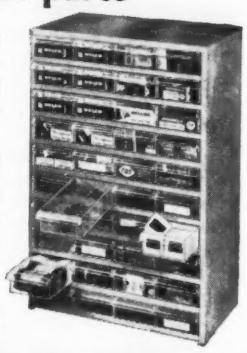
175 different stock models with from 6 to 128 drawers, or we can construct to your specific needs.

SEND TODAY FOR OUR NEW CATALOG!



A-M

AKRO-MILS CABINETS
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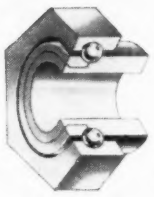
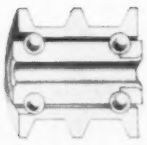


QUALITY—For more than 40 years Kilian Unground Ball Bearings have been the highest quality and the most accurate unground ball bearings obtainable.

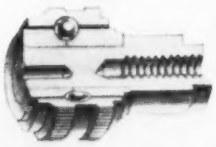
ECONOMY—Inexpensive Kilian Unground Ball Bearings are the perfect answer where precision is not required, where loads are light and speeds are under 2500 r.p.m.

SUPERIOR CONSTRUCTION—All component parts are machined from steel bars and are properly heat treated thus assuring greatest accuracy and an absolutely true running concentric bearing.



CUSTOM DESIGN—Shown here are just a few of the thousands of different bearings that have been designed and produced for America's leading industries. Because of our method of manufacture, we can offer you special bearings in quantities of 2500 or more.

CHOICE OF MATERIALS—In addition to carbon steel, we can furnish bearings made of bronze and stainless steel. NEOPRENE and NYLON tired outer races are available where quiet operation is desired.



CHOICE OF FINISH—For corrosion resistance as well as appearance, various types of finishes are available such as zinc, cadmium, dulite, nickel and chrome.

KILIAN
MANUFACTURING CORP.
SYRACUSE, N. Y., U.S.A.
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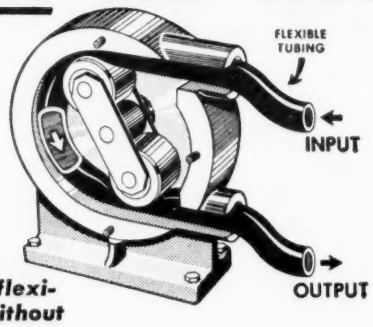
The Pump That *Never* Gets Wet



Fluids flow through a flexible tube without contacting the pump.

CAPACITIES UP TO 185 G.P.H.

RANDOLPH PUMP

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1018 Rosine Street, Houston 19, Texas
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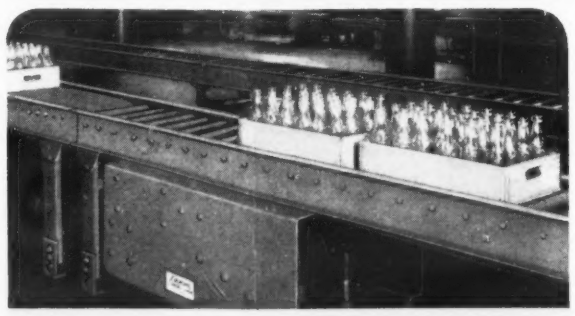

Want to save $200? $500? $1000 on conveyor costs?

Like scores of other firms, *you* can make major savings by designing and installing your own Conveyor System from Logan ADAPTO UNITS. They are *stock parts*, Logan-engineered to work together efficiently. A standardized conveyor assembled from Adapto Units can be quoted quickly, shipped promptly. Write for this free booklet.

LOGAN CO., 215 CABEL ST., LOUISVILLE 6, KY.

Logan Conveyors

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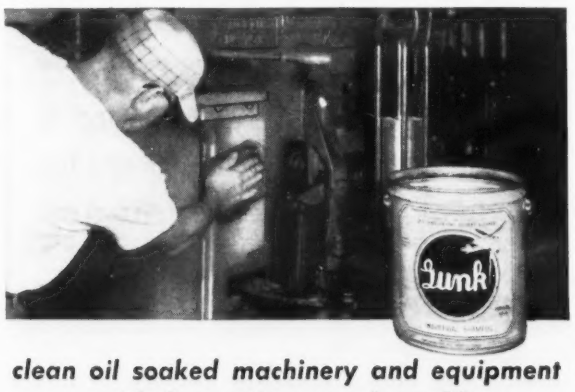

clean oil soaked machinery and equipment with fast-acting, non-burnable

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INDUSTRIAL SHAMPOO!

. . . write NOW for details

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Gunk Chicago Co., River Forest, Illinois serving the Midwest and Southwest
Radiator Specialty Co., Charlotte, No. Carolina serving the East, Southeast and far West

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TYLER service offers 53,000 ways to cut screening costs

To meet all the different requirements for sizing, grading, and separating materials, W. S. Tyler has developed wire cloth in innumerable types, sizes, metals, meshes, and designs. Today, over 53,000 different specifications are available.

Matching the *right* wire cloth to your specific needs is the service provided by your Tyler sales engineer. From Tyler's unequalled range of product he has the know-how and experience to give you results.

That's *Tyler Screening Service*—use it to cut your production costs. Write for information.

The W. S. TYLER Company
3615 Superior Avenue • Cleveland 14, Ohio
TYLER
WOVEN WIRE SCREENS • SCREENING MACHINERY • TESTING SIEVE EQUIPMENT

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AIR-MITE AIR CYLINDERS

★COMPACT ★POWERFUL ★RUGGED ★LOW COST

AIR-MITE Cylinders—made in Single or Double Acting Series, in 4 mounting types, are high quality cylinders at a low price. Simple, rugged design and compact construction give them long life, permit easy mounting on jigs, fixtures, tools, or machines. Used wherever power holding, pushing, pulling, or lifting is required, AIR-MITE Cylinders will meet your most exacting requirements of dependability and long life. Write for complete catalog and prices.

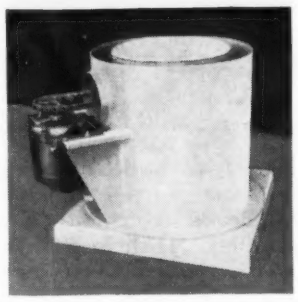
QUALITY FEATURES:
1. Ground and polished steel ram
2. Brass, true-bore cylinders
3. High strength aluminum alloy cylinder heads
4. Bronze oilless ram bushing
5. Five steel tie rods

92

AIR-MITE DEVICES, INC.
4403 W. Kinzie St., Chicago 24, Ill.

For more details circle **NED-37 B1** on enclosed inquiry slip

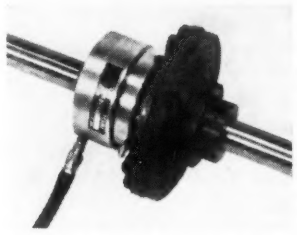
ROOF VENTILATORS made of plastic to resist corrosion



All parts of these roof ventilators in contact with fumes, including the impeller, housing, weather hood, inlet, and other parts, are of corrosion-proof Rigidon plastic. The up-blast discharge blows corrosive fumes high in the air to minimize corrosion to nearby roofs and equipment. Impeller is driven either directly or by a V-belt drive with adjustable belt take-up. Protected from fume exposure, the motor is accessible for lubrication and inspection. The low silhouette, quiet ventilators are made in 10 standard sizes from 6 to 30 in., with plain, collar, or flanged inlets. • **Heil Process Equipment Corp.**, 12850 Elmwood Ave., Cleveland 11, Ohio.

For more details circle **NED-39 B1** on enclosed inquiry slip

AIR-OPERATED CLUTCH handles up to 10-hp loads



Design of this Air Champ pneumatic clutch permits it to be mounted anywhere on a shaft or motor. Suited for applications to 10 hp, it is self-adjusting and serves both as a clutch and sheave. It provides shockless starts without overheating. It is made to hook-up with V-belts or with pilot mount for special sheaves and sprockets. • **Horton Mfg. Co.**, 1179 15th Ave. S.E., Minneapolis 14, Minn.

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JIG TEMPLATE KIT speeds fixture and tool design

Printed on one side of 8½ x 11-in. translucent paper, full-size tracing templates of a wide range of jig and fixture components can be used as overlays for correct location of parts or to check fit. They can be slipped under drawings for tracing as either right or left hand components. Included in the kit are a number of sizes of cams, knobs, handles, clamps, assemblies, C-washers, fixture jacks, index plungers, strap pads, flange nut assemblies, shoe clamps, and knob clamp assemblies. Templates are protected by indexed filing envelope included with this free kit. • **Jergens Tool Specialty Co.**, 712 E. 163rd St., Cleveland 10, Ohio.

For more details circle **NED-41 B1** on enclosed inquiry slip

NATIONAL Tubular RIVETS

National can show you how you can shift to better, money-saving riveting and start cutting costs immediately.

National equipment can be **rented, leased** or **purchased**—whatever fits your particular needs.

Investigate. Send a blue print today, or better still, a sample of your fastening job.

NATIONAL RIVET & MFG. CO.
211 Main Street
Waupun, Wis.

Pedestal Type Automatic Riveting Machine—each tooled to meet users specific automated job.

NATIONAL RIVETS
TUBULAR, SPLIT, SOLID — ALL METALS

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FOXBORO PNEUMATIC TRANSMITTING TACHOMETER

Mounts in any position—Never needs lubrication—No explosion hazards

This unique speed transmitter converts rpm directly to a proportional 3-15 psi air signal, and transmits it to any standard recorder or controller. Speed is recorded on uniform scale chart, providing accurate, easy-to-read measurements throughout the entire range. Full scale accuracy of ±½%. Available for any range. Write for complete details. **The Foxboro Company, 662 Neponset Ave., Foxboro, Mass.**

FOXBORO INSTRUMENTATION
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CUT AIR TOOL MAINTENANCE COSTS...

with Clean-Dry Compressed Air!

ADAMS AFTERCOOLERS provide virtually complete condensation of tool-damaging oil, moisture and dirt from pipeline gases — by efficient cooling to within 10°F. of the cooling water. ADAMS CYCLONE SEPARATORS then remove this condensate at a constant separation factor over all load ranges.

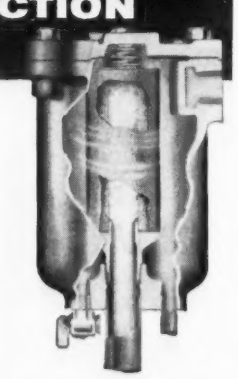
Adams offers this outstanding performance at substantial savings, made possible through specialization in Aftercoolers and Cyclone Separators — plus quality manufacturing methods developed over the years.

Investigate this low-cost method of protecting your pneumatic tools — write today for Bulletin 714! R. P. Adams Co., Inc., 227 East Park Drive, Buffalo 17, New York.

ADAMS QUALITY COMES THROUGH

For more details circle **NED-38 B1** on enclosed inquiry slip

POSITIVE PRODUCTION PROTECTION



. . . accurately describes the exclusive double action cleaning of the ADAMS AIR FILTER . . . centrifugal separation followed by diffusion through the millions of tiny openings of the Poro-Stone element. The filter, installed at the terminal points of your system, completely frees the compressed air of entrained liquid, and any scale picked up in the distribution piping. Expensive production downtime, repairing air operated tools—cleaning fouled equipment components—reworking off-grade spray painting—are all unnecessary *and* eliminated when the Adams Poro-Stone filter provides clean, dry air. Adams units require virtually no service and maintenance — insuring continuous low-cost performance. They are available in a wide range of capacities to suit your needs. Bulletin 117 will give you all the facts. Write for your free copy today. R. P. Adams Co., Inc., 227 East Park Drive, Buffalo 17, N. Y.

ADAMS QUALITY COMES THROUGH

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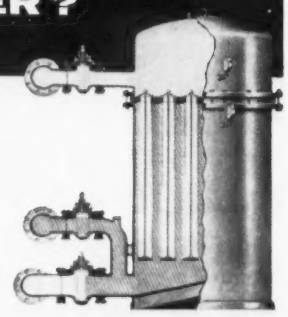
NEED LOW COST FILTERED WATER?



Why not investigate the many advantages of the ADAMS IWF INDUSTRIAL FILTER for all your water needs? Manufacturing skill backed by 25 years of building water and chemical filters insures you top value for your purchasing dollar. Rugged construction and the Adams Poro-Stone, Poro-Carbon and other permanent metallic filter media practically eliminate maintenance problems. The exclusive Adams air pressure dome dynamically backwashes and flushes out accumulated solids in minimum time — with minimum labor — to give top value for your production dollar. There is an Adams design to solve all your liquid polish filtration problems. Why not investigate the many advantages of an Adams unit in your plant? Bulletin #651 has all the information. Interested in chemical filtration? Ask for your copy of bulletin #431. Automatic filtration? Ask for bulletin #909. R. P. Adams Co., Inc., 227 East Park Drive, Buffalo 17, New York.

ADAMS QUALITY COMES THROUGH

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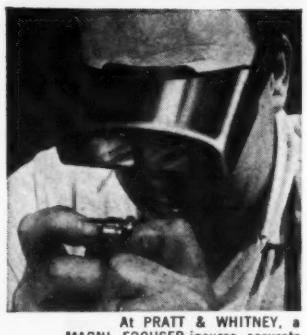
Production UP

Inspection Errors DOWN

—when inspectors "SEE BETTER"®



At PRATT & WHITNEY, a MAGNI-FOCUSER insures accurate inspection of a precision part.

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MAGNI-FOCUSER reduces eye-strain, leaves both hands free to work. May be worn with or without regular eyeglasses. Normal vision resumed by raising head slightly. Weighs only 3 ounces.

Get greater accuracy in your operation — send for MAGNI-FOCUSER on a 10-day trial without obligation! Immediate delivery. Three models — 1¾ magnification at 14", 2¼ at 10", 2¾ at 8". Only $10.50. Illustrated literature on request.

EDROY PRODUCTS CO.
Dept. B, 480 Lexington Ave.
New York 17, N. Y.

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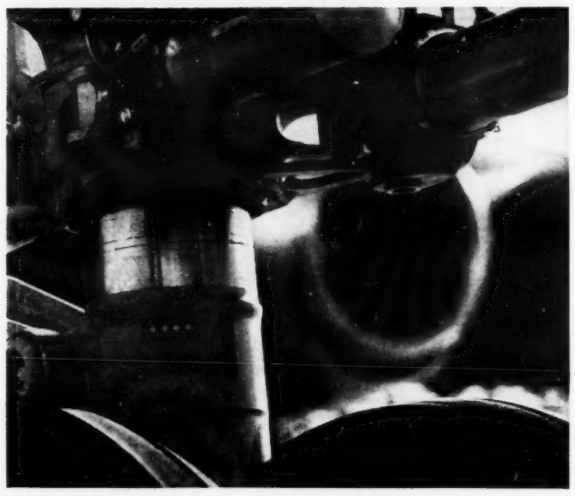

HOW DOUGLAS DETECTS DC-8 HOT SPOTS

Temp-Plates detect overheating on the Douglas DC-8 jet transport, just as they do in many other vital applications throughout industry. Simple, positive, easy to use, the Temp-Plate is the little plastic tab that sticks on almost any surface, turns black when the temperature reaches any desired value between 100° and 1,100°F. Temp-Plate is accurate to ± 1%, impervious to shop and flight line atmospheres.
60 temperatures, several tab sizes.

TEMP-PLATE/Pyrodyne, Inc.
11973 San Vicente Blvd.
Los Angeles 49, California

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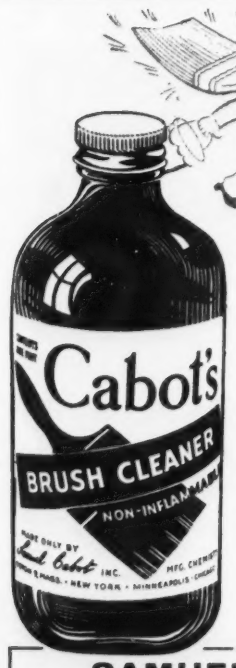

REVIVE OLD STIFFS!

. . . easier, faster, economically

- cleans hardened brushes thoroughly
- restores bristles to natural flexibility
- won't evaporate
- non-inflammable
- safe for finest bristles
- use it over and over again

Don't throw old brushes away — use Cabot's Brush Cleaner first . . . it's your best solution!

Write for free sample

SAMUEL CABOT INC.
232 South Terminal Trust Bldg., Boston 10, Massachusetts
Please send sample of Cabot's Brush Cleaner

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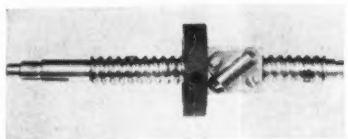
BALL BEARING SCREWS
free-wheel at both ends of travel

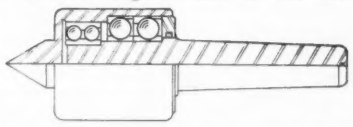


Free-wheeling action at both ends of travel is built into this line of ball bearing screws. Travel of the nut is limited at predetermined positions, although screw continues to rotate by means of a stop and freewheeling device incorporated as an integral part of the nut assembly. High load carrying capacities of the units are the same as for conventional screws of the same size. Mechanical efficiencies range from 90 to 95 per cent. Uses include raising and lowering tables, seats, and windows; positioning machine tables and press dies; and precisely controlling the speed of various devices. • **General Motors Corp.**, Saginaw Steering Gear Div., 3900 Holland Rd., Saginaw, Mich.

▲ For more details circle NED-49 B1 on enclosed inquiry slip ▲

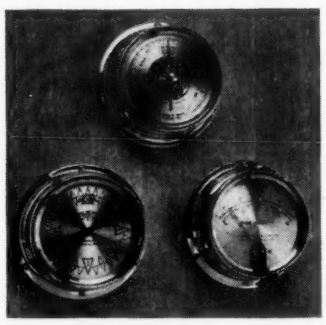
LIVE CENTER
has double thrust, radial bearings

Suited for heavy duty operations, Sturdimatic live center has flush ground tandem thrust bearings and a double row of radial ball bearings. Points are chrome nickel alloy steel, hardened and ground true with the bearings. Other shape heads can be supplied to specification, and standard sizes are No. 3 to No. 6 taper. • **Sturdimatic Tool Co.**, 3900 F St., Detroit 16, Mich.



▲ For more details circle NED-50 B1 on enclosed inquiry slip ▲

WEATHER INSTRUMENTS
in 4½-in. diameter wall-mount cases



Weather instruments available in 4½-in. diameter brass or chrome finish wall-mounted cases are 2 in. high and have a 5½-in. diameter mounting flange. Aneroid barometer with temperature-compensated French movement has a 27.5 to 31.5-in. scale calibrated in increments of 0.02 in. Remote reading wind speed indicator uses a three-cup anemometer to drive its own generator. The indicator has 0-50 and 0-120 mph scales. Knot and kilometer ranges are available. The remote reading wind direction indicator has a 360-degree dial calibrated in compass points and operates from 110-v ac or 6 or 12-v dc. Prices of the three units are $49.50, $64.50, and $84.50, respectively. • **Wilfrid O. White & Sons, Inc.**, 178 Atlantic Ave., Boston 10, Mass.

▲ For more details circle NED-51 B1 on enclosed inquiry slip ▲

available NOW to industry!

G-63 FOR INSTANT BURN RELIEF!

new spray-on, soothing

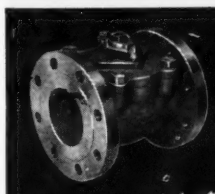
EASY-TO-USE! EFFECTIVE!

G-63 is a fabulous new "push-button" spray that provides INSTANT RELIEF from painful burns . . . with a soothing, protective film that eliminates the need for bandages!

Reduces swelling, contains Hexachlorophene to guard against secondary infection. Packaged in 8-ounce spray-on cans.

Distributor Inquiries Invited
GENERAL SCIENTIFIC EQUIPMENT COMPANY
Number ONE Safety Center, Philadelphia 50, Pa., HAncock 4-1550

▲ For more details circle NED-52 B1 on enclosed inquiry slip ▲



How to buy a ball valve!

Check these features!

	FLO•BALL	VALVE A	VALVE B	VALVE C	VALVE D	VALVE E
1. TOP ENTRY	✓			✓		
2. IN-LINE MAINTENANCE	✓			✓	✓	
3. TOP AND BOTTOM GUIDED BALL	✓					
4. DOUBLE SEATS	✓	✓	✓	✓	✓	✓
5. FLANGES INTEGRAL WITH BODY	✓	✓		✓		
6. ONE-PIECE BALL AND STEM	✓					
7. BLOCK AND BLEED	✓					
8. COMPETITIVELY PRICED	✓	✓	✓		✓	✓

Only FLO·BALL has all 8

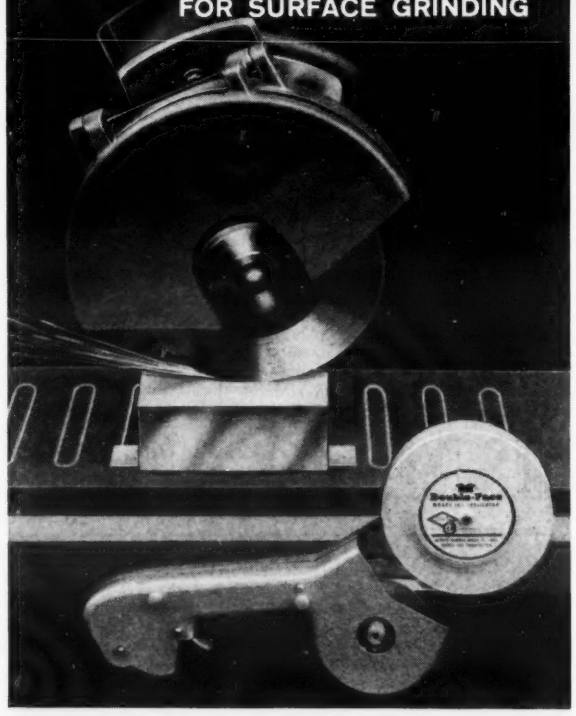
See your local distributor for details and prices on a wide variety of flanged (1" through 14") and screwed end (⅛" through 2") FLO•BALL valves; or write to:

Hydromatics, Inc.

BLOOMFIELD, N. J. • PILGRIM 8-7000 • TWX = BLOOMFIELD, N. J. 120

▲ For more details circle NED-53 B1 on enclosed inquiry slip ▲

ANGIER DOUBLE-FACE* FILM HOLDS NON-FERROUS AND PLASTIC MATERIALS FOR SURFACE GRINDING



A truly effective, easy method of holding any metallic or plastic materials to surface grinders. Automatic dispenser deposits a film of adhesive on the chuck and strips release paper away. The object is placed on the film which holds it tightly. No clumsy mechanical contrivances to get in the way. Incompressible film allows close machining. No need to demagnetize ferrous metals. Resistant to cooling solutions. Little chance of contamination, since operator never handles adhesive. Also available in a variety of sizes for manual applications.

Write today for literature and free sample.

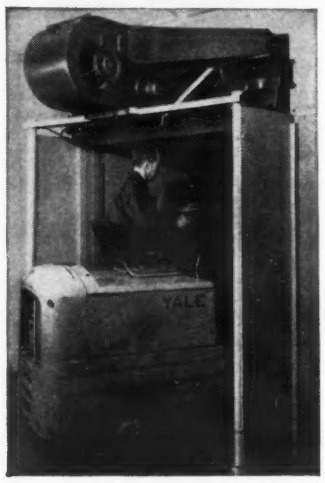
ANGIER ADHESIVES
Interchemical CORPORATION
Finishes Division

Angier Adhesives Department, Interchemical Corporation, Finishes Division, 120 Potter Street, Cambridge 42, Mass. Adhesive Plants at: Cambridge, Mass. • Huntington, Indiana. Other Factories: Chicago, Ill. • Cincinnati, Ohio • Elizabeth, N.J. • Los Angeles, Calif. • Mexico City, Mex. • Newark, N.J.
*ANGIER and DOUBLE-FACE are trademarks of Interchemical Corporation.

▲ For more details circle NED-54 B1 on enclosed inquiry slip ▲

AIR ISOLATOR*

... opens doorways to unlimited traffic while screening out heat, cold, humidity, dust, odors, insects.



Forms a shield between areas of different temperature or humidity.

Provides high velocity curtain of vertical air across open doorways.

Permits unlimited traffic. Repels dust, cold, heat, odors or insects.

Broad application: Manufacturing, general industry, warehousing, food processing or laboratories.

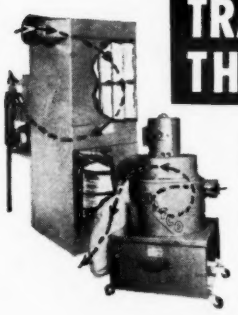
*Registered trademark and product of Lehigh, Inc.

For complete information write today to Jamison Cold Storage Door Co., Hagerstown, Md.

JAMISON COLD STORAGE DOORS

▲ For more details circle **NED-55 B1** on enclosed inquiry slip ▲

TRAP THAT DUST THIS EASY WAY



Investigate this simple low cost solution to the dust problem in your plant, CHAFCO "Dust King" dust collectors combine powerful cyclonic action, *plus* multiple filter systems for highest efficiency. Sixteen portable models for every industrial need. Completely self contained packaged units, ready to plug in and operate. Easily installed by user. Can be moved anywhere. Capacities 420 to 5000 CFM, priced $165 up.

NEW FUMIST FUME AND MIST COLLECTOR

Gets rid of toxic, costly, irritating, damaging fumes, mists, vapors, spray, fog, smoke and odors. 3 stage system combines cyclonic action, activated carbon, and fibreglass filters. Portable unit, 24" x 24" x 45" high, mounted on casters. No installation. Just plug in. Ideal for use with metal working machines and other fume, mist and odor producing equipment. 3 models priced $220 up.

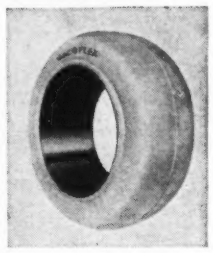
WRITE FOR BROCHURE AND PRICE LIST
Jobber Inquiries Invited

CHAFCO **CHICAGO AIR FILTER CO.**
3723 Grand Blvd. - Brookfield, Ill.
Phone HU 5-5313

Since 1945 Manufacturers of CHAFCO Plant Engineered Dust and Mist Collectors

▲ For more details circle **NED-56 B1** on enclosed inquiry slip ▲

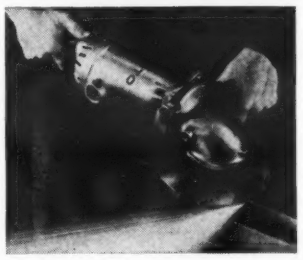
POLYURETHANE TIRES
solid types for industrial trucks



Made in press-on types with up to 12-in. diameters, Macoflex polyurethane tires for electric walkie and rider straddle trucks have long life and high resistance to oils, grease, chemicals, solvents, and acid floor conditions. Improved profile facilitates steering, yet it has ample traction for driving and braking. • **Maco Industries, Inc.**, 6200 S. Ashland Ave., Chicago 36, Ill.

▲ For more details circle **NED-58 B1** on enclosed inquiry slip ▲

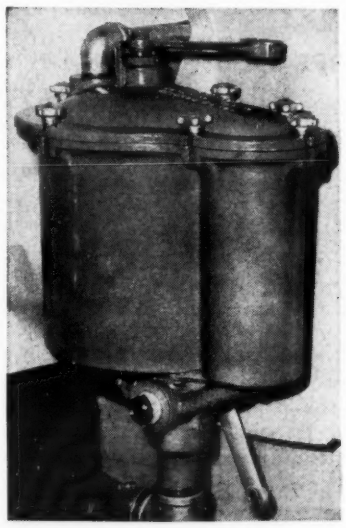
PORTABLE ELECTRIC GRINDER
is lightweight, 1.6-hp unit



Weighing only 15 lb, this Lesto GES 95 A angle grinder is driven by a 1.6-hp universal motor and has a no-load speed of 6500 rpm. It is available in six standard voltage ratings and accommodates up to 7-in. diameter 3/8-in. thick flexible resin-bonded and depressed-center abrasive discs. Guard protects both sides of disc without hampering grinding operations. Front handle is reversible for ease of use. Control is by an enclosed switch in the rear handle. • **Victor J. Krieg, Inc.**, Box 7, Mamaroneck, N. Y.

▲ For more details circle **NED-59 B1** on enclosed inquiry slip ▲

COOLANT FILTER
cleaned by reverse flushing



Improved Imperial coolant filter uses a filtering aid compound added to the coolant to form an open, porous cake on the woven wire mesh filter screen. This caked filter traps all sludge, dirt, grit, metal particles, and suspended foreign matter as small as 1 micron in size. The purified coolant is returned to the wheel for reuse. A flushing chamber and controls permit reverse flushing of the element to clean it. Filter is readily installed in any coolant system. • **Dundick Tool Works, Inc.**, 3410 W. 31st St., Chicago 23, Ill.

▲ For more details circle **NED-60 B1** on enclosed inquiry slip ▲

½ TON to 7 TON for

- MARKING
- SWEDGING
- ASSEMBLING
- FOLDING
- CRIMPING
- DIE CUTTING
- HEAT SEALING
- STACKING
- FORMING

OLSENMARK POWER PRESSES

K 60 A shown with a heated head 4-7 TON

Square Rams — prevents rotation of head, assures accurate registration Adjustable Gap — head raises and lowers on ½ ton presses, table raises and lowers on larger models • Long Head Strokes — easier to set up and feed • Adjustable Ram Speed and Pressures • Double Toggle Head action on larger models • Rugged, cast iron, "C" frame construction • Hand lever included for setting up air machines • Two way air cylinders and four way control valves • Hand operated presses can be later converted to air in your plant.

Write for Complete Literature

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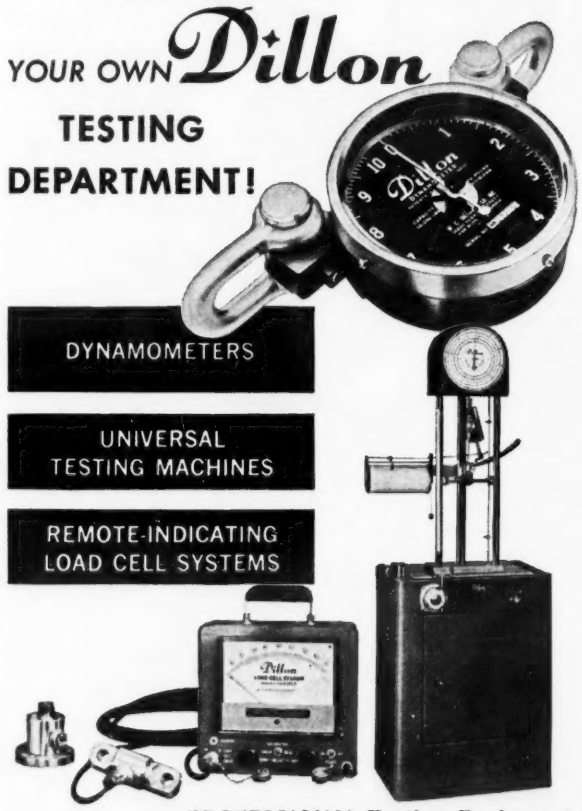
Telephone: CAnal 6-3384
MANUFACTURERS OF KENSOL ROLL LEAF STAMPING EQUIPMENT . . . HAND, POWER AND AUTOMATIC

▲ For more details circle **NED-61 B1** on enclosed inquiry slip ▲

GET *IMMEDIATE* ANSWERS WITH YOUR OWN *Dillon* TESTING DEPARTMENT!



PROFESSIONAL Testing Equipment Within Reach of the Average Shop Budget!

Your own *available* test department can be worth its weight in gold. In addition to getting *immediate* answers to your problems, you'll save outside fees...and costly employee waiting time.

Whatever your product, there's a Dillon instrument you can use to advantage. Tensile, compression, torque or shear ...1 pound to *1 million* pounds! Anyone can operate. Rugged and dependable. Guaranteed accuracy!

VALUABLE FREE ENGINEERING BROCHURES
If you're just starting or adding to your testing department, you'll need this data on prices, and capacities...plus 100's of new testing ideas! Write today . . . specify brochures wanted!
Dynamometers ☐ Testers ☐ Load Cells ☐

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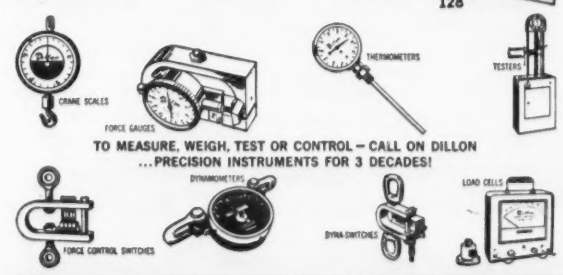

TO MEASURE, WEIGH, TEST OR CONTROL — CALL ON DILLON ...PRECISION INSTRUMENTS FOR 3 DECADES!

W. C. *Dillon* & COMPANY, INC.
Dept. 119, 14578 KESWICK STREET, VAN NUYS 72, CALIFORNIA
Representatives in All Principal Cities

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NEW BALCRANK HI-SPRAY

airless spray equipment

HANDLES WATER-BASE *as well as all other* PAINTS

Balcrank manufactures a complete line of regular air operated paint spray equipment, transfer and material pumps in Carbon Steel, Brass and Stainless Steel. Write or wire today for complete information on "Hi-SPRAY" or any Balcrank pump equipment.

You get these many plus features when you use the New Balcrank "HI-SPRAY" Airless Spray Equipment:

- Successfully sprays all types of paint, INCLUDING WATER-BASE
- Faster than all other methods for finishing, refinishing and maintenance
- Cuts cost of materials
- Cuts cost of entire painting operation
- Eliminates expensive booths and exhaust equipment
- 10 different models available, both 5/10 gallon and 55 gallon units
- Many exclusive features, offered only by Balcrank

BALCRANK inc.
10 Disney Street Dept. NED-1 Cincinnati 9, Ohio

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Your insides feel like a SAND STORM ?

YOU NEED A
DUPOR AUTOMATIC
Water-Cooled Respirator

Sponge filter saturated in cool, clear water provides moist air for comfortable breathing. Ideal protection against dust, fumes, smoke, paint spray. Full panorama visibility. Can be worn with goggles or glasses. Work refreshed, order a water-conditioned respirator today! Sample, $2.25 postpaid.

H. S. COVER, Dept. 205
South Bend 14, Indiana
"Respirators for Industry since 1894"

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NOW!
Branded for lifetime identification

HOW IT'S DONE: The mark is embossed onto, not stamped into, the chain.

CHAIN BUYERS & USERS—Now you can be sure of the make of chain you are getting and of the grade (strength) of the chain you are using...a definite safety advantage. Available on Inswell Proof Coil, BBB, High Test and the ½" and smaller sizes of Herc-Alloy chain.

SPECIFY "CM" CHAIN

RUGGED · DURABLE CM® CHAIN

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SAN FRANCISCO
In Canada: **Columbus McKinnon Limited, St. Catharines, Ontario**
HERC-ALLOY®

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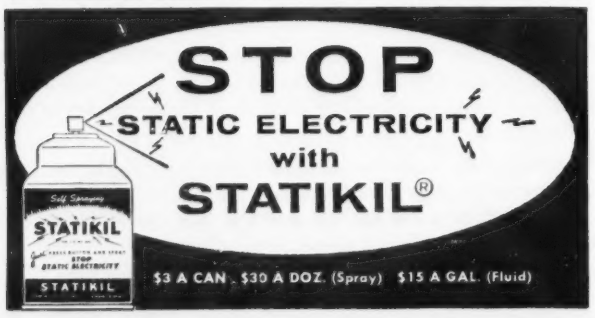
STOP STATIC ELECTRICITY with STATIKIL®



$3 A CAN . $30 A DOZ. (Spray) $15 A GAL. (Fluid)

Stop static electricity troubles in all manufacturing and processing operations with Statikil, the original, registered anti-static preventive. Applied to machinery, electrical or processing operations neutralizes all static disturbances. Ideal for instruments, recorders, meters, indicators, plastic, paper, textile, printing, aeronautical materials and machinery. An ideal spark retardant. Curbs dangerous fires and explosions caused by static electricity. Effectiveness thoroughly proven by constant use in hundreds of plants. Available in bulk or convenient aerosol cans.

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Mail Coupon Today

Send the following (please check):
☐ Free Literature ☐ One case of spray cans @ $30
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Name _____
Company _____
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Used By Hundreds Of Leading Plants

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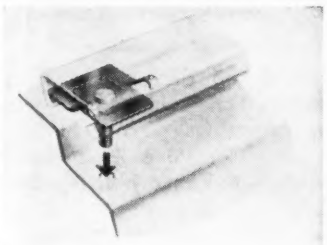
PARTS CHECKING TABLE
used vertically or horizontally

Parts can be checked for trueness to less than 0.000010 in. and in runout and concentricity to less than 0.000020 in. by the Roto-Grind checking table. Used on a jig or surface grinder in a vertical or horizontal position, it checks rings, castings, parts, instrument components, and other items. A variable speed, 110-v, 60-cycle motor and forward-reverse switch permit checking with both hands free. A slip clutch works under power to prevent gear jamming or breaking. Equally spaced indexing of 2, 3, 4, 6, 8, 12, or 24 combinations is available, as are special plates. • **M & M Tool & Mfg. Co.**, 1124 E. Third St., Dayton 2, Ohio.

▲ For more details circle **NED-66 B1** on enclosed inquiry slip ▲

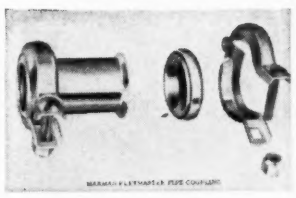
SPRING FASTENER
two-part type holds metal molding



Designed to hold decorative chrome hood molding, this two-part spring fastener is shallow and has two dimpled spring legs which allow secure positioning of the clip within the molding. Embossed fastener panel section provides the strength required when unit is tightly bolted. • **George K. Garrett Co.**, Torresdale Avenue at Tolbut Street, Philadelphia 36, Pa.

▲ For more details circle **NED-67 B1** on enclosed inquiry slip ▲

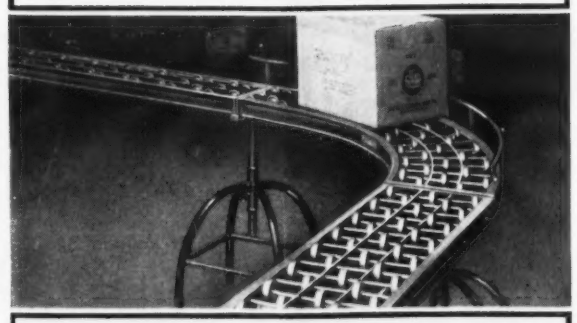
PIPE COUPLING
for 150-lb, −40 to 250° F service



Gasket of the improved Flexmaster pipe coupling is contained in a retainer to assure uniform pressure against the pipe and sleeve and to prevent extrusion. Standard pipe sizes range from ⅜ to 4 in. and lengths from 2 to 36 in. Elbows, crosses, and tees are also available in cadmium-plated steel or a black painted finish. Coupling joins plain pipe ends quickly with one bolt and nut, without cutting or threading, and absorbs pipe vibration and shock. Misalignment up to 4 degrees and angular and axial pipe movement without leakage are possible. Coupling meets ASA requirements for 150-lb service from −40 to 250° F. Higher temperature gaskets are available. • **Aeroquip Corp.**, Marman Div., 11214 Exposition Blvd., Los Angeles 64, Calif.

▲ For more details circle **NED-68 B1** on enclosed inquiry slip ▲

As Dependable as Gravity and as Inexpensive!
BUSCHMAN CONVEYORS



Savings far exceed the low cost of Buschman wheel, roller and belt portables, pre-engineered for particular functions, in all kinds of plants, everywhere. Popular sizes in stock. Buschman also designs special systems; builds standard stocked parts into wheel, roller and belt type units, overhead trolleys and table-cable conveyors, to move products of all shapes, sizes. Consult our agent or write The E. W. Buschman Company, 4482 Clifton Avenue, Cincinnati 32, Ohio.

Buschman CONVEYORS
Complete Conveyor Systems for all Industries—Engineered, Manufactured, Installed
Representatives in Principal Cities
362

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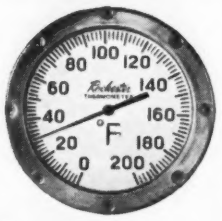
ROCHESTER
BIMETAL THERMOMETERS

1st and still Unequalled for



- AIR-TIGHT SEAL
- THOROUGH DAMPENING
- EXTERNAL RECALIBRATION FACILITY

FIRST with patented, functional external recalibration device; silicone dampening process; hermetic sealing. Others have tried, but none have achieved the overall excellence of RMC dial thermometers. Just recently our hermetic sealing process has been even further improved—Tests equivalent to 6 years' rugged service have proved additional superiority.

Write for test results on improved hermetic seal—and complete catalog.

Dial sizes from 1" to 5", stem lengths from 2½" to 70", scale ranges from −150°F. to +1000°F

AMERICAN-Standard CONTROLS DIVISION

ROCHESTER INSTRUMENTS PLANT
114 Rockwood St., Rochester 10, N. Y.

▲ For more details circle **NED-70 B1** on enclosed inquiry slip ▲

Gates High Capacity Drive saves up to 50% in drive space

If the belts and sheaves of a conventional V-belt drive must be replaced, or if you are designing a new drive, you can save space, weight and money by installing a Gates Super HC High Capacity V-Belt Drive. Because of exclusive design features, this new Gates drive can often cut in half the space formerly required for a V-belt drive. Drive costs are cut as much as 20%, and drive weight reduced 20% and more. Guards can be smaller. Bearing loads are less, increasing bearing life. And the drive can operate at speeds up to 6000 ft/min without dynamic balancing!

Your local Gates Representative is an experienced, fully-qualified drive design expert. Contact him for drive design help.

The Gates Rubber Company
Denver, Colorado
Building the future on 50 years of progress
SP 20

Gates®

Gates Super HC V-Belt Drives

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NEW AVISTRAP® CORD STRAPPING FOR PACKAGING, PALLETIZING, BALING

Absorbs shocks that snap comparable-width metal strapping. Made of super tough Avisco® rayon, in ¼" to ¾" widths. No sharp edges, easy handling. Light weight—21-lb. coil carries yardage equal to 100 lbs. metal strapping. AVISTRAP, tools, accessories, and tool service available from local distributors throughout U.S. Latest descriptive literature sent on request. Write, on company letterhead, to arrange for in-plant demonstration.

AVISTRAP. CORD STRAPPING*

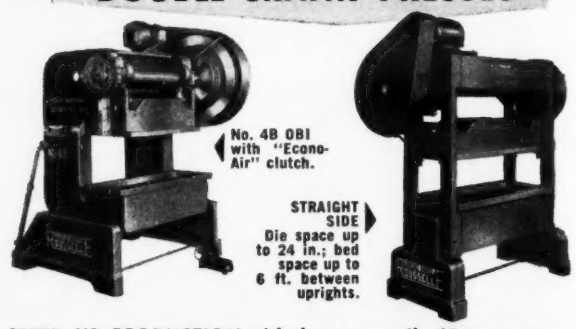
*PATENTS PENDING

INDUSTRIAL PACKAGING DEPARTMENT

American Viscose Corporation, 1617 Pennsylvania Boulevard, Philadelphia 3, Pa.

▲ For more details circle **NED-72 B1** on enclosed inquiry slip ▲

High Output with ROUSSELLE DOUBLE-CRANK PRESSES

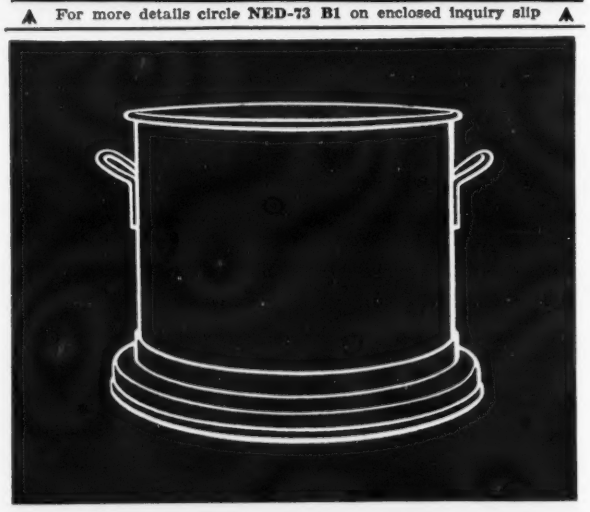


SPEED UP PRODUCTION with these versatile 40-ton presses. Large bed and ram areas make them ideally suited to handle wide rolls or sheets . . . do multiple punching, steel-rule die work and other high output operations. For rapid shockless starting and stopping, presses can be equipped with electrically controlled "Econo-Air" friction clutch . . . Ask for new catalog.

SERVICE MACHINE CO.
Mfrs. of Rousselle Presses
2310 WEST 78TH ST. • CHICAGO 20, ILL.

Rousselle Presses are sold exclusively through Leading Machinery Dealers.

▲ For more details circle **NED-73 B1** on enclosed inquiry slip ▲

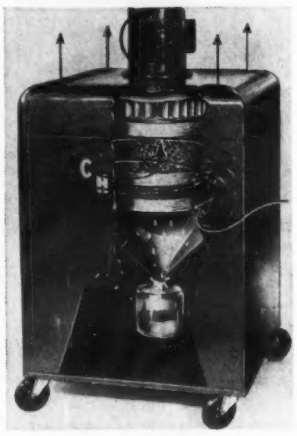


Let wear-ever store it

These Wear-Ever containers stack to save space. Or, covers are available. Extra-tough aluminum alloy won't rust, resists denting. Beaded rims protect workers' hands. Choose from Wear-Ever's wide selection of sizes: 2½-, 4-, 6-, 9- and 14-gallon capacity. Count on lightweight Wear-Ever aluminum containers to stand up to a long life of hard use—save yourself replacement costs. Send reply card for full details; or write Wear-Ever Aluminum, Inc., New Kensington, Pa. Immediate delivery from stock. A-5440-2

▲ For more details circle **NED-74 B1** on enclosed inquiry slip ▲

MIST & FUME COLLECTOR
350, 800, and 1200-cfm models feature three-stage separator

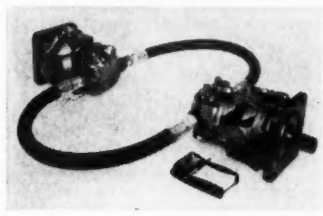


Irritating and noxious mists, fog, vapors, and odors generated by automatic screw machines, grinders, extruders, and other equipment are removed from exhaust by Chafco mist and fume collectors which have three stage separator and filter systems. Ninety-eight per cent of the mist is separated by cyclonic action, with part of this mist drying and the remainder being collected in a plastic receptacle. Remaining 2 per cent is drawn through a filter cartridge having alternate layers of glass fiber and activated carbon.

Standard units consist of ½-hp Model 500 which is rated 350 cfm at 1½ in. static pressure; a 1-hp model with 800 cfm capacity; and a 2-hp unit rate 1200 cfm. Units are priced at $220, $320, and $440, respectively. They can be suspended from ceiling if floor space is limited. Filter is easily removed and recharged. • **Chicago Air Filter Co.**, 3723 Grand Blvd., Brookfield, Ill.

▲ For more details circle **NED-75 B1** on enclosed inquiry slip ▲

HYDROSTATIC TRANSMISSION
affords full torque at idle speed in many types of mobile equipment

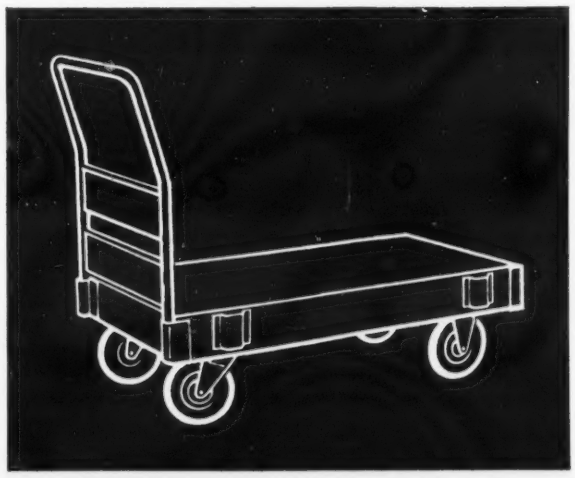


Dynapower hydrostatic transmission consists of a variable displacement axial piston hydraulic pump, coupled directly to the vehicle's engine, and a fixed displacement hydraulic motor which drives directly into the differential. High pressure hoses connect the two units. Various combinations of single and dual, fixed and variable pumps and motors are available for performance requirements.

Suited for lift trucks, front end loaders, crawler vehicles, and similar types of materials handling and off-road equipment, the transmission furnishes full torque at low engine speeds, even idle speeds, and has infinitely variable and stepless speed ratios. The transmission also handles all service braking requirements. Only a single control is needed for both direction and speed.

Several types of bolt-on interchangeable controls are offered. Running torque is 56 lb-ft per 1000 psi and rating at 2000 rpm is 60 hp. • **New York Air Brake Co.**, Watertown Div., Starbuck Avenue, Watertown, N. Y.

▲ For more details circle **NED-76 B1** on enclosed inquiry slip ▲



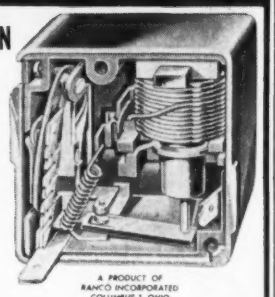
Let wear-ever move it

Even the women in your plant can handle lightweight Wear-Ever aluminum trucks. This newest addition goes like lightning, yet stands up to long, hard use. One-eighth-inch thick, heavy-duty aluminum base. Eight-inch diameter rubber-tired casters roll smoothly over uneven floors. Special panels (two sides, one end) turn 47" x 23" flat bed truck into a panel truck. Send reply card for full details on this and other Wear-Ever trucks; or write Wear-Ever Aluminum, Inc., New Kensington, Pa. Immediate delivery. A-5440-3

▲ For more details circle **NED-77 B1** on enclosed inquiry slip ▲

Chace THERMOSTATIC BIMETAL
ACTUATES ANOTHER PRECISION PRODUCT

Ranco® COMBINATION STARTING RELAY AND OVERLOAD PROTECTOR



A PRODUCT OF RANCO INCORPORATED COLUMBUS 1, OHIO

Flexibility of design in this fine Ranco product—Ranco Type H60 combination motor starting relay and overload protector—produces three results of utmost importance to refrigerator manufacturers:

1. Provides better motor protection.
2. Allows increased compressor capacity.
3. Assures dependable starting.

The Ranco H60 plugs directly onto the three terminal pin cluster of hermetic refrigerator compressors.

It can be provided with a variety of terminals and covers for both screw type and quick connect line terminals. A horsepower range from 1/3 HP, 115 Volts to 1/12 HP, 230 Volts is possible.

The overload protector here is of the "Inherent" type and decides how much load the motor should accept (cool motor, high current; warm motor, low current). The "deciding" in the Ranco Combination Starting Relay and Overload Protector is done by dependable Chace Thermostatic Bimetal.

The flexibility of design and wide horsepower range of this Ranco product are provided through the use of several bimetal shapes and more than two dozen different types and thicknesses of Chace Thermostatic Bimetal. Ranco uses one word to describe Chace Thermostatic Bimetal: "dependable." This has been Chace's specialty for more than a third of a century . . . dependable, *precision* thermostatic bimetal. Hundreds of manufacturers depend on Chace Thermostatic Bimetal . . . they know their good names are safe on the outside with Chace Thermostatic Bimetal on the inside of their products.

SEND NOW FOR OUR NEW "INFORMATION BOOKLET!" It contains many well illustrated pages of valuable design data and examples of successful applications of bimetal. More than 40 types of Chace Thermostatic Bimetal are available in coils, strips and completely fabricated elements of your design.

W. M. CHACE CO. Thermostatic Bimetal
1604 BEARD AVE., DETROIT 9, MICH.

▲ For more details circle **NED-78 B1** on enclosed inquiry slip ▲

RECEIVING...PRODUCTION...
WAREHOUSE...SHIPPING...
MAINTENANCE

every department can use the CM CYCLONE HIGH-SPEED—HEAVY DUTY—ALUMINUM ALLOY CHAIN HOIST

CAPACITIES: ¼ TO 10 TON

● Help your men get lifting jobs done quicker, safer, with less physical effort. Increase labor dollar return. PORTABLE—Carry with one hand. EASY OPERATION—Less hand chain pull. LOW HEADROOM—Highest possible lift. CM-ALLOY flexible welded load chain. Lifetime lubrication. *More CYCLONE Hoists are in use today than any other hoist in their class.*

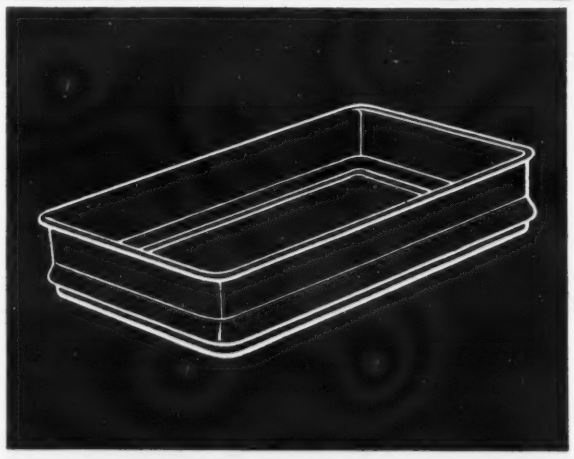
CYCLONE CATALOG NO. 145

Illustrates, describes and prices all models. Sent on request or ask your CM Distributor.

CM HOISTS

CHISHOLM-MOORE HOIST DIVISION
COLUMBUS McKINNON CORPORATION
TONAWANDA, NEW YORK
DISTRICT OFFICES: NEW YORK, CHICAGO, CLEVELAND
In Canada: COLUMBUS McKINNON LIMITED, ST. CATHARINES, ONT.

▲ For more details circle **NED-79 B1** on enclosed inquiry slip ▲



Let wear-ever keep it handy

Small parts can be expensive. That's why Wear-Ever's rectangular pans and transport boxes are all drawn seamless from one sheet of extra-tough, dent-resistant aluminum alloy. No seams to catch tiny parts or dirt. Easy-to-clean rounded corners, sanitary open bead. Send reply card for full details; or write Wear-Ever Aluminum, Inc., New Kensington, Pa. Count on immediate shipment from stock. A-5440-4

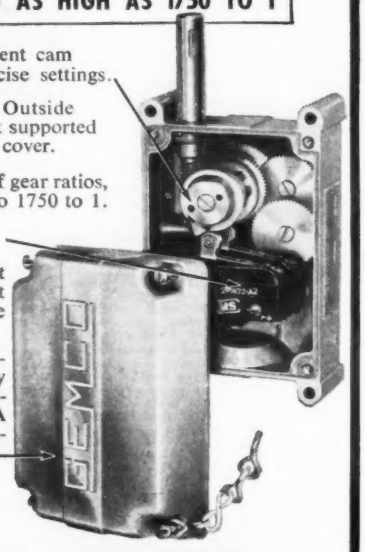
▲ For more details circle **NED-80 B1** on enclosed inquiry slip ▲

simplify complex linkage and control problems...

GEMCO
ROTARY LIMIT SWITCHES

GEAR RATIOS AS HIGH AS 1750 TO 1

- Quick, independent cam adjustment. Precise settings.
- Easy mounting. Outside holes. Cam block supported independently of cover.
- Broadest range of gear ratios, from 5 to 1 up to 1750 to 1.
- Easy to wire. Snap-action switches in direct line with conduit connection. More inside space.
- Tough, impact resistant Fibralloy case! (Also available in NEMA type 4 and 7 enclosures.)

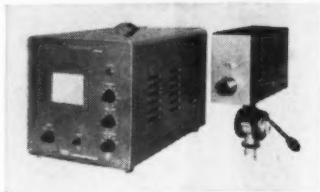


WRITE FOR BULLETIN 254

GEMCO ELECTRIC COMPANY
25685 West Eight Mile, Detroit 40, Mich.

For more details circle NED-86 B1 on enclosed inquiry slip

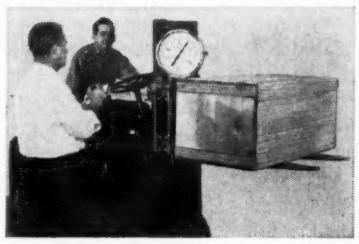
TELEPHONE LINE TELEVISION
transmits all types of images



Capable of transmitting 400-line resolution images over a standard telephone line in 60 sec, Videx television system will handle charts, sketches, maps, and three-dimensional subjects. System consists of a slow-scan Vidicon camera with camera control and transmitter unit and a direct-view storage tube monitor with the receiver unit. Both units are transistorized and hand portable, the entire system weighs less than 100 lb. Price range is $12,000 to $24,000. • **ITT Laboratories,** 3700 E. Pontiac St., Ft. Wayne, Ind.

For more details circle NED-89 B1 on enclosed inquiry slip

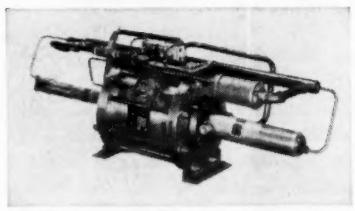
FORK TRUCK SCALE
in 1000 to 6000-lb capacities



Quickly installed on any make of fork lift truck, the Hydroscale becomes a mobile platform scale which can be used anywhere in the plant, storage yard, or loading dock. It is available for either bracket or bar type fork mounting in capacities from 1000 to 6000 lb. With a reverse-reading dial, scale can be used for batching operations. It is a self-contained hydraulic compression cell-type unit. Reaction lever system, with floating cell design, permits loading anywhere on forks, even on one fork. Tare adjustment to 20 per cent of capacity is possible. Unit is accurate within ½ per cent of capacity. • **Hydroway Scales, Inc.,** 31302 Stephenson Highway, Madison Heights, Mich.

For more details circle NED-90 B1 on enclosed inquiry slip

GAS BOOSTER COMPRESSOR
single and two-stage types in line



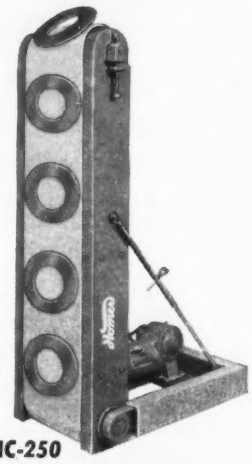
Using 80 to 150-psi plant air pressure, the Model AG oil-free gas booster compressor will safely boost bottled gas up to 10,000 psi. Single-stage unit for up to 6-to-1 compression ratio and two-stage unit for ratios to 16-to-1 are available. Flow rates are up to 14 cfm. Used wherever clean, high pressure gas is required, the units are suited for production gas testing, receiving inspection departments, laboratories, and LOX cleaning rooms. • **Haskel Engineering & Supply Co.,** 1236 S. Central Ave., Glendale 4, Calif.

For more details circle NED-91 B1 on enclosed inquiry slip

HOMER "Space Saver" MAGNETIC CONVEYORS

AUTOMATE PRODUCTION —CUT LABOR COSTS —REDUCE REJECTS *in handling ferrous parts and scrap*

- Automatically transfer parts, feed machines and stack parts in multiple machine operations. Convey on underside of belt for parts turn-over.
- Powerful permanent magnetic assembly securely holds and conveys ferrous parts and scrap up inclines as steep as 90° . . . without belt cleats or buckets. No loss of parts or scrap from belt resilience or bouncing over belt cleats.
- End damage to critical finish of parts as a result of parts riding against belt cleats or jamming in flapper gates.
- Steeper inclines permit close grouping of machinery to save floor space.
- May be loaded at any angle . . . at floor level or any level above floor from other conveyors, chutes or machines.
- Standard and custom models available.

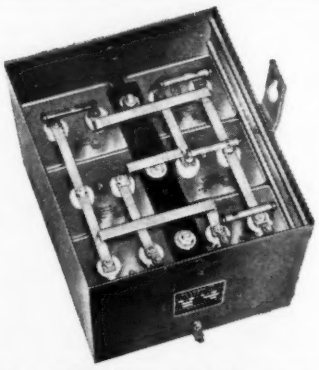


WRITE TODAY FOR BULLETIN MC-250

HOMER MANUFACTURING DIVISION
THE OHIO ELECTRIC MANUFACTURING CO.
DEPT. 124 • LIMA, OHIO

For more details circle NED-93 B1 on enclosed inquiry slip

this **UNIPAK®** can **SLASH YOUR ELECTRIC BILL**



It's no secret. It's one of Sprague Electric's power factor correction capacitors—proved in engineering principle . . . made by the world's largest capacitor manufacturer . . . listed by Underwriters' Laboratories . . . used by leading manufacturers the world over. Here's why—

Motors and similar equipment in your plant use both kilowatts (working current) and kilovars (magnetizing current). The kilowatts you buy from your electric company. The kilovars you can best supply yourself with Sprague power factor correction capacitors. And the more you supply, the greater your useful power, the less the load on present wiring, the lower your electric bill.

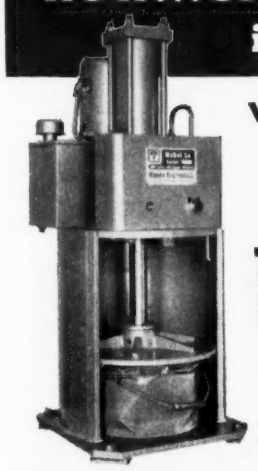
You can get a free estimate of potential savings in your plant, or literature giving more details by writing Sprague Electric Co., 183 Marshall Street, North Adams, Mass.

In Canada, write John R. Tilton Ltd., 51 McCormack Street, Toronto 9, Ont.

SPRAGUE®
world's largest capacitor manufacturer

For more details circle NED-87 B1 on enclosed inquiry slip

NOW... Convert TRASH into $CASH



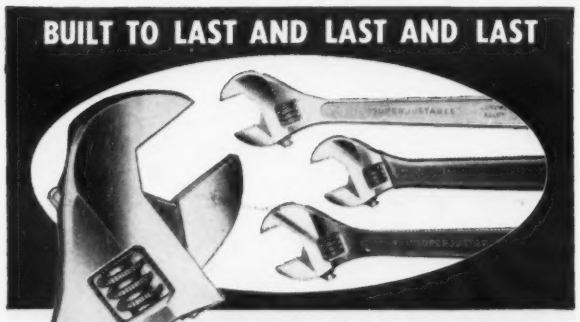
with this new CAN RAM push-button hydraulic CAN CRUSHER

This new CAN-RAM Crusher, the only machine of its kind, flattens heavy-gauge 5 gallon cans with a steady fully automatic cycle exerting over 12,000 pounds of pressure. CAN-RAM Crusher features a rugged hydraulic system engineered for years of trouble-free safe service. Easy-to-operate, CAN-RAM goes to work at the touch of a button . . . crushing cans, containers and pails including 24 gauge into a compact size. CAN-RAM reduced handling, disposal, and storage costs, and you can sell CAN-RAM-compressed cans as steel scrap . . . converting trash into additional cash. Manufacturers Representative inquiries invited. For more information, write to . . .

MILWAUKEE METAL PRODUCTS CO., INC.
8006 W. Florist Ave., Milwaukee 18, Wisc.

For more details circle NED-94 B1 on enclosed inquiry slip

BUILT TO LAST AND LAST AND LAST



WILLIAMS SUPERJUSTABLE WRENCHES

All Williams Superjustable Wrenches feature an exclusive D-slot design for positive bearing of movable jaw that eliminates spreading action . . . gives longer-lasting service . . . reduces parts replacement. Available in regular or locking styles with chrome or black finish. Chrome styles also available with *Cementex* black insulated handles. All styles drop-forged from selected alloy steel and heat-treated. Your Williams Distributor can give fast service.

SIX STYLES, THIRTY-THREE SIZES LENGTHS FROM 4 TO 24 INCHES

J. H. WILLIAMS & CO.
DIVISION OF UNITED-GREENFIELD CORPORATION
400 VULCAN ST., BUFFALO 7, N.Y.

WILLIAMS

For more details circle NED-88 B1 on enclosed inquiry slip

TAILOR-MAKE WRENCHES ON THE JOB

WILLIAMS SUPERSOCKET WRENCH SETS

The right wrench . . . exactly when you want it. Williams Distributors offer a range of 88 Drivers and 235 Sockets in 47 set assortments in sturdy metal cases for every need. Choose from 5 square drives: ¼", ⅜", ½", ¾", 1" and a full range of openings from 3/16" to 3⅛" for square and hex nuts. All drives, sockets, extensions, adapters and special attachments are made from finest alloy steel and heat-treated.

47 SPECIALLY DESIGNED SETS FOR ANY JOB . . . BIG OR SMALL

J. H. WILLIAMS & CO.
DIVISION OF UNITED-GREENFIELD CORPORATION
400 VULCAN ST., BUFFALO 7, N.Y.

WILLIAMS

For more details circle NED-92 B1 on enclosed inquiry slip

DEPENDABLE FOR EVERYDAY USE

WILLIAMS MISCELLANEOUS HAND TOOLS

Over 550 Williams Hand Tools are available . . . Screwdrivers, Pliers, Hammers, Punches, Chisels, Pullers, Chain Wrenches, Tube Cutters, Flaring Tools . . . to mention only a few. All are made for heavy-duty, long-lasting performance. Whatever the job at hand, you can do it quickly, easily and safely with Williams Hand Tools.

CALL YOUR WILLIAMS DISTRIBUTOR HE CAN GIVE IMMEDIATE SERVICE

J. H. WILLIAMS & CO.
DIVISION OF UNITED-GREENFIELD CORPORATION
400 VULCAN ST., BUFFALO 7, N.Y.

WILLIAMS

For more details circle NED-95 B1 on enclosed inquiry slip

NEW! Announcing a full line of

PERMATEX COATING COMPOUNDS
(stronger than concrete)

- ★ Easily applied — trowel, brush or spray
- ★ Four special products to meet every need
- ★ Four attractive colors
- ★ Covers metal, wood, concrete
- ★ Economical — one single coat protects
- ★ Resists chemicals, solvents, water, wear

PRODUCED BY THE WORLD'S LEADER IN SEALANTS...PROVEN BY PERFORMANCE!

FREE LITERATURE AND TECHNICAL ASSISTANCE . . . WRITE NOW!

Like this line of Permatex Coating Compounds, all Permatex Products...sealants, adhesives, lubricants . . . are available from quality industrial distributors.

PERMATEX COMPANY, INC.
DPT. NED-1 • 300 BROADWAY • HUNTINGTON STATION, L. I., N. Y.
FACTORIES: BROOKLYN 35, N. Y. • KANSAS CITY 15, KANSAS
SEALANTS • ADHESIVES • LUBRICANTS

▲ For more details circle NED-96 B1 on enclosed inquiry slip ▲

DON'T FIGHT DERMATITIS!

USE...

PEPCO

POWDERED HAND CLEANSER

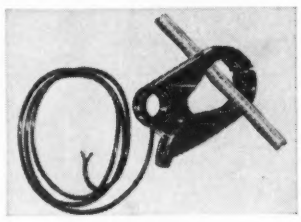
CONTAINS—
- LANOLIN Plus LECITHIN
- ANTISEPTIC-ACTAMER
- "PEP-COOL" Cooling Agent

SOLUBLE & NON-SOLUBLE TYPES

PECK'S PRODUCTS CO.
610 E. CLARENCE • ST. LOUIS 15, MISSOURI

▲ For more details circle NED-97 B1 on enclosed inquiry slip ▲

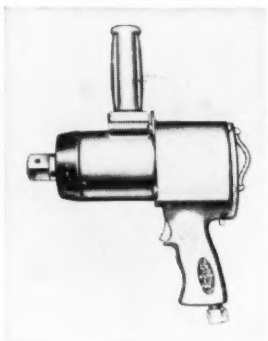
SNAP-AROUND TRANSFORMER
measures, monitors line currents



For use with recorders or other measuring equipment, the Model A50-S Deca-Tran miniature split-core transformer pick-up measures and monitors line currents without interrupting the line or service. A 6-ft line cord allows flexibility of recorder location. Standard unit may be used for up to 600 amp on continuous duty and above 600 amp intermittently. The secondary output of 75 milliamps is provided by 7000 turns with a 300-ohm resistance. • **Pyramid Instrument Corp.**, Dept. A667, 630 Merrick Rd., Lynbrook, N. Y.

▲ For more details circle NED-99 B1 on enclosed inquiry slip ▲

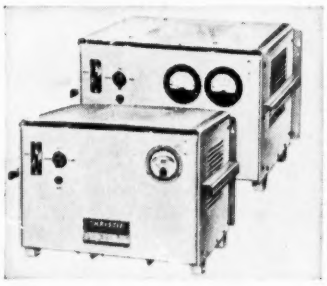
AIR IMPACT WRENCH
heavy duty type is reversible



High speed, high torque, and fast run down are afforded by the Sioux No. 482 air impact wrench, a heavy duty, 1-in. square drive tool with an improved air motor and housing. Air enters through a ½-in. inlet into a streamlined housing which assures free air flow with minimum restriction. The reversing valve with related volume control for right-hand operation is leakproof and well protected. Bails for horizontal or vertical suspension and an auxiliary handle which is adjustable to four positions are features. • **Albertson & Co.**, Sioux City 2, Iowa.

▲ For more details circle NED-100 B1 on enclosed inquiry slip ▲

INDUSTRIAL BATTERY CHARGERS
tailored for various battery types



Available for all applications from float charging of batteries for emergency lighting and standby service to heavy duty lift truck or vehicle charging. Models BC24-50, BC32-25, and BC120-6 stepless automatic battery chargers cover a wide range of voltage and current ratings. They are tailored for lead-acid, nickel-cadmium, silver-zinc, silver-cadmium, or nickel-iron types. Features include hermetically sealed silicon rectifiers, magnetic amplifier regulation, and automatic operation. • **Christie Electric Corp.**, 3410 W. 67th St., Los Angeles 43, Calif.

▲ For more details circle NED-101 B1 on enclosed inquiry slip ▲

20% labor savings on overhead installations with TALLESCOPE... telescoping aluminum scaffold

Western Electric Company plant, Kansas City, Missouri.

In overhead work on heating and ventilating systems, six Tallescope aluminum scaffolds saved 20% on total installation time. Units fold down to pass through doorways and under low ceilings, saving repeated assembly and disassembly of conventional scaffolds. Western Electric Company plant, Kansas City, Missouri. On all overhead maintenance, Tallescope gets men up in the air fast; lets them finish the job fast! Extends instantly for reaching heights up to 31 feet. Lightweight and quickly assembled without tools or loose parts.

Write for TALLESCOPE *circular*

UP-RIGHT SCAFFOLDS
DEPT. 145, 1013 PARDEE, BERKELEY, CALIFORNIA
In Canada: Up-Right Scaffolds, Ltd., 120 Russett St., Oshawa, Ontario

▲ For more details circle NED-98 B1 on enclosed inquiry slip ▲

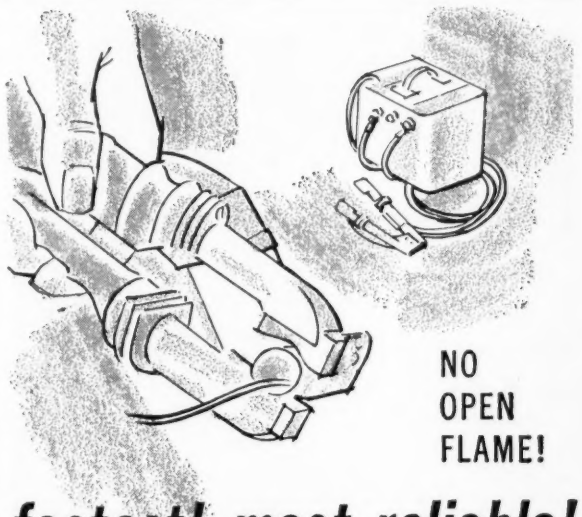
AURAND
CLEANING TOOLS
ELECTRIC OR PNEUMATIC

Zip away SCALE RUST PAINT

Powerful rotary chipping action completely removes stubborn accumulations from iron, steel, brick, concrete, etc. with less effort. Adjustable depth shoe for controlling depth of cut. Renewable cutter heads. Two sizes in both electric and pneumatic models. Lightweight.

Write for the money-saving facts.
AURAND MFG. & EQUIP. CO.
1322 Ellis St. • Cincinnati 23, Ohio
Canadian Distributor: E. B. Peerless, LTD., 5934 Fraser St., Vancouver 15, B. C.

▲ For more details circle NED-102 B1 on enclosed inquiry slip ▲



NO OPEN FLAME!

fastest! most reliable!

SOLDER LUGS, TERMINALS, WIRES, SEAMS

BRAZE LEADS, TUBING, BRASS, BRONZE, COPPER, STEEL

SWEAT FITTINGS, TUBING

IDEAL THERMO-GRIP®
RESISTANCE SOLDERING SETS

Instant resistance heat concentrated at point of contact joins parts in seconds. *Work piece heats first*, melts solder, positively prevents cold-flow joints. No pre-heating — no burning of nearby parts. . . . Heat is controlled by thumb-switch. Low voltage and completely insulated parts eliminate accidental shock . . . Compact, rugged units draw current only when in use — cut power costs. Universal application: production, maintenance or repair, in electrical, metalworking, plumbing, heating, air-conditioning and general industry . . . Proved in hundreds of plants to increase output, cut costs, insure better soldering.

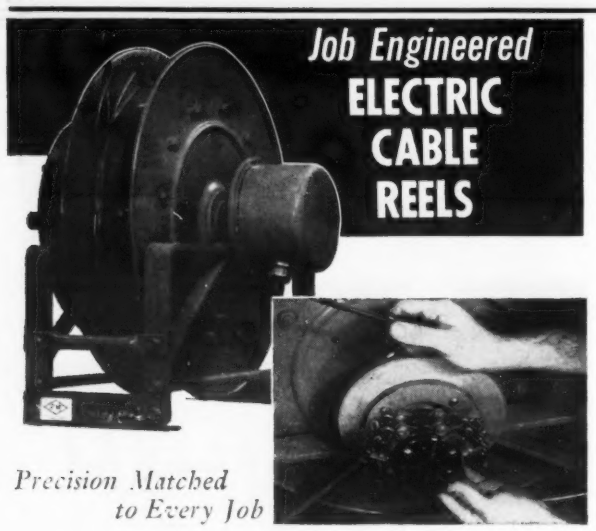
5 MODELS . . . 450 to 7500 watts. Plier, fork, pencil attachments with replaceable electrodes and other accessories. Sizes, models and powers for all needs.

Thermo-Grip soldering can save your company money. Mail coupon today for catalog data.

IDEAL INDUSTRIES, Inc.
1032-B Park Avenue, Sycamore, Illinois
Please send catalog on Ideal Thermo-Grip sets.

NAME_____
COMPANY_____
ADDRESS_____
CITY_____ ZONE____ STATE_____

▲ For more details circle NED-103 B1 on enclosed inquiry slip ▲



Precision Matched to Every Job

Hannay's wide range of component sizes, materials and rewind power packages lets you specify the exact capacity, power rating and rewind drive your job requires. Send for new data sheet on applications, construction and operating features.

REELS by HANNAY

CLIFFORD B. HANNAY & SON, INC.
WESTERLO, N. Y.

For more details circle **NED-104 B1** on enclosed inquiry slip

HANSEN
SERIES HK® QUICK-CONNECTIVE
TWO-WAY SHUT-OFF
COUPLINGS

QUICK CONNECTION
with instant automatic flow

QUICK DISCONNECTION
with instant automatic shut-off
. . . prevents loss of liquid, gas, or pressure.

Hydraulic and pneumatic lines are quickly and easily connected with Hansen Series HK Two-Way Shut-Off Couplings. No tools required.

When Coupling is disconnected, valves contact valve seats in both Socket and Plug—instantly shut off both sides of line—prevent loss of liquid, gas, or pressure. Coupling does not depend upon line pressure to seal either end of line.

Available in brass or steel, with female pipe thread connections from 1/8" to 1 1/2" inclusive.

Write for Hansen Catalog — a ready reference when you want information on couplings in a hurry.

Representatives in Principal Cities . . . See Yellow Pages

THE HANSEN MANUFACTURING COMPANY
4031 WEST 150th STREET • CLEVELAND 35, OHIO

For more details circle **NED-105 B1** on enclosed inquiry slip

LOWEST PRICE
Proximity Switch

actuated by NON-MAGNETIC and MAGNETIC metals to solve electrical switching problems

Now Electro offers you a low cost proximity switch incorporating the basic *patented* circuit used successfully in industrial plants for more than 5 years.

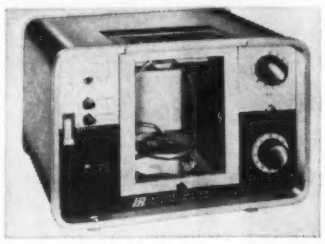
$86.00
users net includes:
Control amplifier 4902
Sensing head 4913BL
Connecting cable

Write for new detailed Bulletin EDPS-80!

ELECTRO PRODUCTS LABORATORIES
4501X Ravenswood, Chicago 40, Ill.
Canada: Atlas Instrument, Ltd., Toronto

For more details circle **NED-106 B1** on enclosed inquiry slip

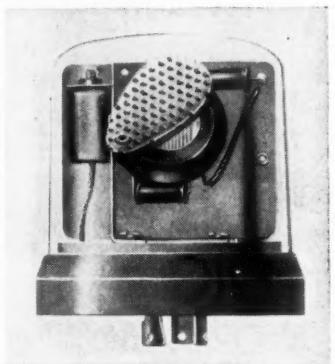
MOISTURE ANALYZER
checks per cent moisture or solids



Production samples of materials can be checked for per cent of moisture or per cent of solids quickly in the plant or laboratory with this I-R moisture analyzer. It uses far infrared sample drying and measuring of sample change through torsion wire rotation for accurate determination. Answer is given directly in per cent. • **Moore-Milford Corp.**, 8034 N. Central Park Ave., Skokie, Ill.

For more details circle **NED-107 B1** on enclosed inquiry slip

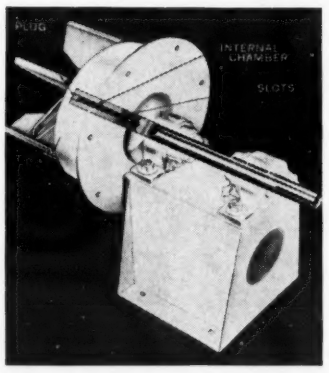
PHOTOCELL CONTROL
operates at specific light levels



Reliable automatic switching of lights in accordance with demands of surrounding illumination levels is afforded by this Lumatrol Mark 1 photoelectric control. It uses a simplified circuit and varistors in conjunction with a secondary lightning arrestor. Latter withstands all transient voltage surges through the NEMA-mounting device. • **Micro Balancing, Inc.**, Herricks Road, Garden City Park, L. I., N. Y.

For more details circle **NED-108 B1** on enclosed inquiry slip

HOT AIR FANS
air cooled through hollow shaft



Usable in ovens, kilns, furnaces, dryers, and other service involving temperatures up to 1700° F, Thermal-Aire fans have an air cooled shaft with an integral chamber-and-slot arrangement which minimizes transmission of heat. As the shaft rotates, air is evacuated from the internal chamber through four slotted orifices. This creates a heat transfer barrier which keeps the stainless steel shaft cool at vital bearing points. • **Garden City Fan & Blower Co.**, 801 N. Eighth St., Niles, Mich.

For more details circle **NED-109 B1** on enclosed inquiry slip

ELECTRO MAGNETIC PICKUPS

WHAT THEY ARE . . . a self-generating frequency source providing the connecting link between mechanical motion and instrumentation.

WHAT THEY DO . . . without contact, pickups generate frequency/voltage proportional to speed of any ferrous metal objects interrupting their magnetic fields.

1 of 1000's of applications. Wide variety of stock models for immediate delivery. Unlimited variations available on special orders.

For most any application . . . Sizes as small as 1/4" dia. x 1" long . . . Weights from .2 oz. . . . Operating temperatures up to 800° F.

Measuring RPM

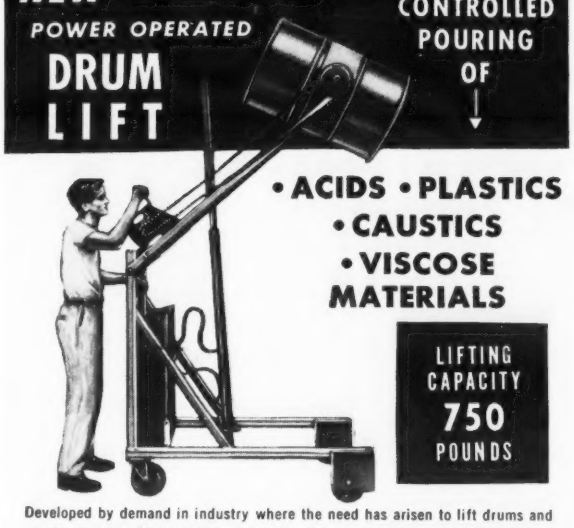
Write for new detailed Bulletin EDPS-80!

ELECTRO PRODUCTS LABORATORIES
4501-X Ravenswood, Chicago 40, Ill.
Canada: Atlas Instrument, Ltd., Toronto

For more details circle **NED-110 B1** on enclosed inquiry slip

NEW ONE-MAN POWER OPERATED DRUM LIFT

FOR CONTROLLED POURING OF



• ACIDS • PLASTICS
• CAUSTICS
• VISCOSE MATERIALS

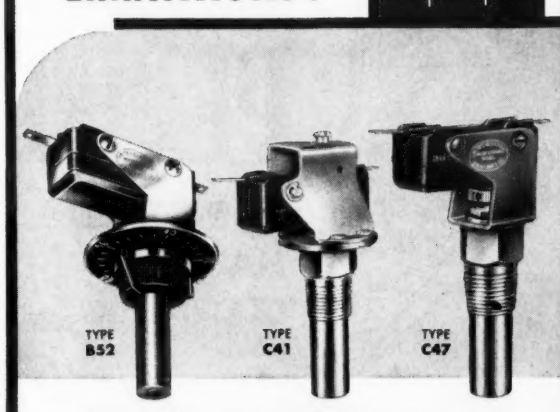
LIFTING CAPACITY 750 POUNDS

Developed by demand in industry where the need has arisen to lift drums and empty contents from heights of 7' to 8', the new Sterling Fleischman Power Operated Drum Lift will raise drum to 95" from floor to bung in just 30 seconds. Easily maneuverable in cramped quarters and ideal for operation in areas with a minimum of headroom. These units are available in AC or battery operated Power Packs. Design features assure self-locking control at any pouring angle and use with either steel or fibre drums. For complete details on power operated or foot operated Sterling Fleischman Hydraulic Drum Lifts, write: Dept. NED-2

STERLING FLEISCHMAN COMPANY
P.O. Box 94 Broomall, Pa.

For more details circle **NED-111 B1** on enclosed inquiry slip

SPACE OR WEIGHT LIMITATIONS? B52 | C41 | C47



Specify Local Mounted UE SKELETON TYPE TEMPERATURE CONTROLS

UNITED ELECTRIC temperature controls are precision-built, compact and economical. Type B-52 was designed especially for controlling air temperatures . . . Type C41 and C47 for liquid or hot plate temperatures . . . These controls are direct-immersion units designed for easy installation.

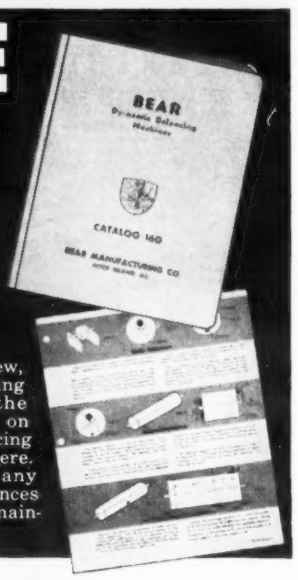
Temperature Ranges	Type C41 & C47 100° or 200° between 0° and 425° F limits. Type B52 calibrated 40° F spans between 30° and 120° F.
Thermal Assemblies	various immersion lengths . . . liquid-filled seamless brass bellows operate by hydraulic action
Switch Ratings	15 amps or 20 amps at 115 or 230 volts A.C.; also D.C. switches available upon specification
Switch Actions	N.O., N.C., or Double Throw, no neutral position
Electrical Connection	attached directly to screw or solder terminals on switch
Size & Weight	approx. weight . . . 4 1/2 oz., approx. size . . . 3 7/8" x 2" x 1 1/4"
Variations	design variations available upon specification

UNITED ELECTRIC *manufactures a complete line of temperature, pressure and vacuum controls. For applications requiring custom-built units or modified standard units, call upon a UE application engineer for recommendations. Write for complete specification and pricing data on the Type B52, Type C41 or Type C47 local mounted temperature control, and for information regarding other United Electric temperature controls.*

United Electric Controls COMPANY
85 SCHOOL STREET, WATERTOWN, MASS

For more details circle **NED-112 B1** on enclosed inquiry slip

FREE
NEW BEAR BALANCING CATALOG



New Loose-Leaf Design — 32 pages packed with information and technical data to help you select the RIGHT Balancer for the job!

Just off the press! Bear's new, complete Industrial Balancing Catalog No. 160. One of the most complete directories on static and dy-namic balancing machines available anywhere. Shows models balancing any moving part from a few ounces to tons, production line or maintenance balancing.

Contents:
- Static and dy-namic unbalance explained
- Principles of operation
- Forces created by unbalance
- How to choose and order balancers
- Production line balancing machines
- Maintenance type balancers
- Variety of applications
- Specially built balancers

BEAR®

Now the Most Complete Line of Balancing Machines for **PRODUCTION LINE and MAINTENANCE BALANCING**
WRITE TODAY! BEAR MFG. CO., Dept. N-2, Rock Island, Illinois

For more details circle **NED-113 B1** on enclosed inquiry slip

GREATER GRINDING EFFICIENCY ... LOWER "PER UNIT" COSTS

ALPHA
GRINDING WHEELS

Designed for fast action wherever quick metal removal is required. Their longer cutting life means more metal removed per disc wheel — reducing "per unit" production costs. And, because of this more efficient cutting action, Alpha disc wheels do not cause operator fatigue.

Made from abrasive grain and resinoid bond, Alpha disc wheels are strong and durable. Triple reinforcement provides greater safety while in operation.

Alpha grinding disc wheels are manufactured in 7 and 9 inch diameters in a complete range of grain sizes from 14 to 120.

Write today for full information.

Atlantic Abrasive Corp.
A DIVISION OF ABRASIVE PRODUCTS, INC.
South Braintree 85, Massachusetts

STRAIGHT WHEELS • CYLINDER WHEELS • CUP WHEELS
CONES • PLUGS • MOUNTED WHEELS AND POINTS

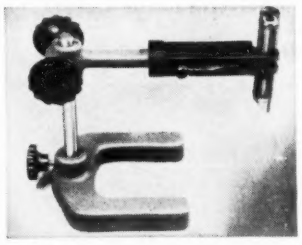
For more details circle **NED-114 B1** on enclosed inquiry slip

PERMISSIBLE HAND LAMP
safe to use in gas-laden atmosphere

Combining a 20-amp-hr rechargeable battery with a powerful light beam, Type PFB-5R permissible hand lamp is approved by the U. S. Bureau of Mines for use in hazardous gas-laden atmospheres. The spillproof battery has corrosion resistant terminals and automatic filling control. It is also offered in companion Type PFB-5 with a dry battery pack. • **Carpenter Mfg. Co.**, Bradley Street, Somerville 45, Mass.

For more details circle **NED-116 B1** on enclosed inquiry slip

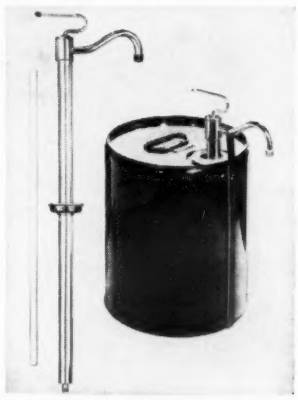
MEASURING MICROSCOPE
accurate to 0.001 in.



Industrial inspection, checking, and quality control operations may be performed with this 50X measuring microscope. Built for factory use, it has rack and pinion focusing with a 7-in. rack. The arm is 8 in. long and the base can be adjusted through 360 degrees so that it will not interfere with long or irregularly shaped objects. The microscope itself can be removed for use as a pocket instrument. Reticle is calibrated to measure 0.1 in. by 0.001-in. divisions. Price is $19.75. • **Edmund Scientific Co.**, 180 E. Gloucester Pike, Barrington, N. J.

For more details circle **NED-117 B1** on enclosed inquiry slip

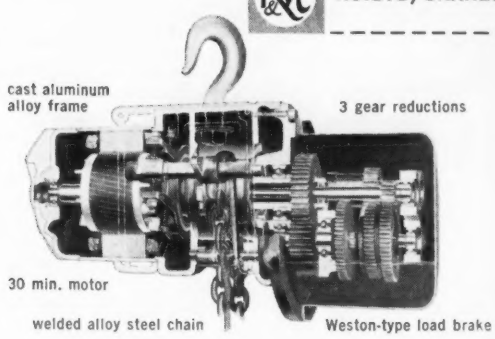
DRUM & PAIL PUMPS
dispense 4 and 8 oz per stroke



Chrome-plated, self-venting, hand-operated pumps in two models facilitate dispensing of liquids from 5 to 55-gal pails and drums. Model M45 self-priming pumps for 5 and 6-gal pails dispense exactly 4 oz per stroke without spill or waste. They adapt to all size and type pail openings. Model M855, designed for use on 15, 30, and 55-gal drums, dispenses 8 oz per stroke. • **Multi-Meter Corp.**, 1635 Coining Dr., Toledo 12, Ohio.

For more details circle **NED-118 B1** on enclosed inquiry slip

R&M HOISTS/CRANES



MOST RUGGED ELECTRIC CHAIN HOIST

CAPACITIES: ¼, ½, 1 ton—At competitive prices, R&M Type JC chain hoists have extra features for long life. Precision ball bearings are used throughout; ½ hp R&M hoist motor has 30 min., 55° C. rating—highest rating of any motor in this class hoist. Tough aluminum alloy frame seals out weather and dust. Sealed in splash-oil lubrication for ball bearings, Weston-type load brake, and the 3 reductions of precision-cut alloy steel gears. Push trolleys available. Request Bulletin 852-B. **Robbins & Myers, Inc., Hoist & Crane Division, Springfield, Ohio.**

ROBBINS & MYERS

hoists, cranes, Moyno® pumps, motors, Propellair® fans

For more details circle **NED-119 B1** on enclosed inquiry slip

Now! ALSO AVAILABLE WITH
3-CONDUCTOR CORD and GROUNDED PLUG
"For Safety's Sake"

SWIVELIER *Adjustable*
COOLITES Reg. U.S. Pat. Off.

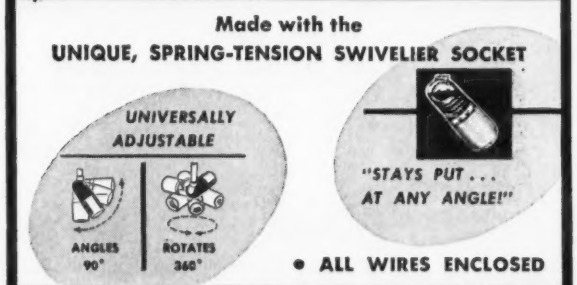
PREVENT BURNS

STAY COOL Using 100-Watt Lamp

SWIVELIER FLUORESCENT
DEXTRA-LITES Reg. U.S. Pat. Off.

Adjust to any position

Made with the UNIQUE, SPRING-TENSION SWIVELIER SOCKET



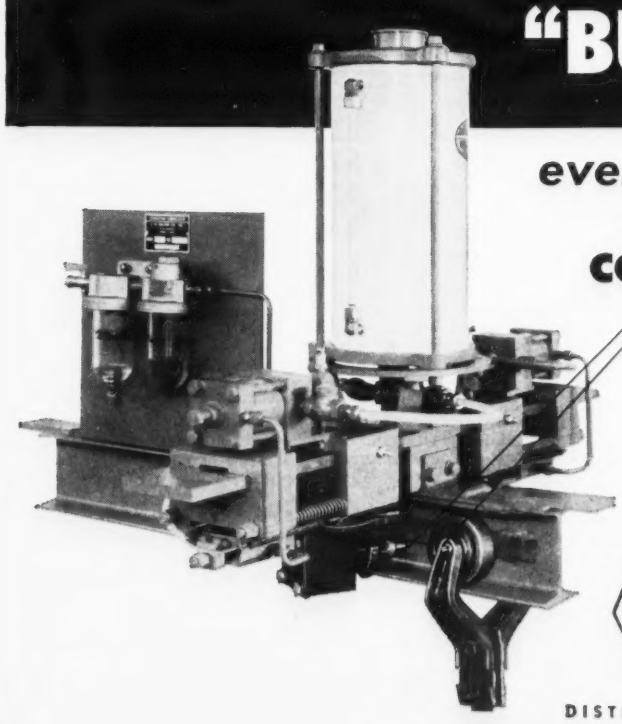
• ALL WIRES ENCLOSED

• For full details on Coolites, fluorescent and incandescent "Dextra-Lites" and other fine Swivelier Industrial Lighting Units

swivelier COMPANY, INC. TRADEMARK
New York Showroom
30 IRVING PLACE, NEW YORK 3, N. Y.
MAIN OFFICE AND PLANT: NANUET, N. Y.

For more details circle **NED-120 B1** on enclosed inquiry slip

"BULL'S EYE!"



every time when you install a
FAUVER AUTOMATIC CONVEYOR LUBRICATOR

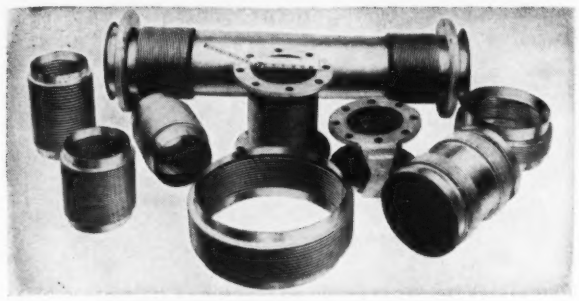
Yes . . . FAUVER'S *exclusive* "on target" automatic jet control system completely eliminates lubrication waste. A booster injects lubricant ONLY at the instant nozzles are perfectly aligned with wheels. Lubrication is positive. Volume is adjustable. Designed to handle a complete range of lubricants . . . from oils to heavy greases.

FAUVER manufactures a full line of Automatic Conveyor Lubricators for every need . . . each *engineered* to your specific requirements. WRITE for detailed catalog.

J. N. FAUVER CO., INC.
51 W. HANCOCK AVE., DETROIT 1, MICH.

DISTRIBUTORS • ENGINEERS • CONTRACTORS

For more details circle **NED-115 B1** on enclosed inquiry slip



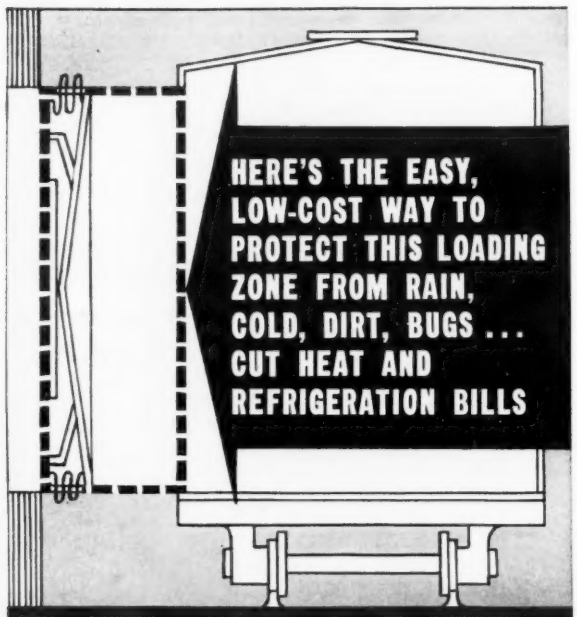
EXPANSION-JOINT TUBING FOR BIG, TOUGH JOBS

New AX Tubing by Anaconda is available in Bronze, Stainless Steel, and other metals and alloys—from 4½" I.D. to 14" I.D.—to handle axial and lateral movement.

Need to compensate for contraction of piping suddenly cooled to minus 300°F by a large volume of liquefied gas? Want a bulkhead seal that "gives" with hull movement? Do you need a special assembly which handles an offset and a combination of lateral and axial movement? Wherever you need large diameter tubing to take care of axial, radial, dual radial, or shear motion—or simple offset—write: Anaconda Metal Hose, P.O. Box 791, Waterbury 20, Conn. In Canada: Anaconda American Brass Ltd., New Toronto, Ontario. 60131 L

ANACONDA® METAL HOSE

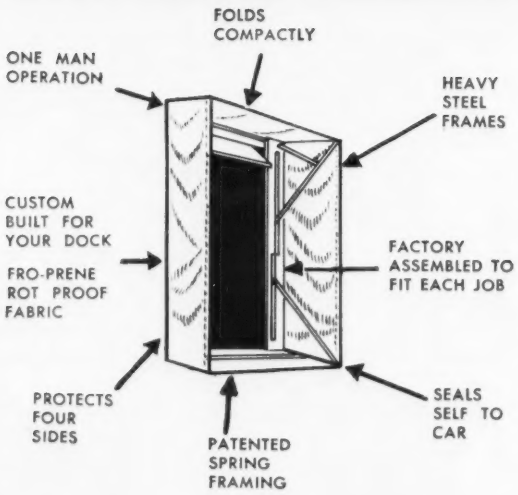
For more details circle **NED-121 B1** on enclosed inquiry slip



install Frommelt Rail-Dox

DOCK SHELTERS

Pat. No. 2892463



FREE CATALOGS COVER SAMPLES

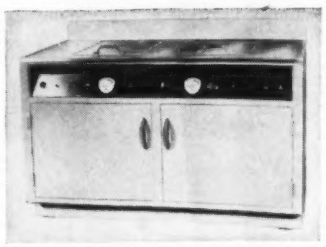
FROMMELT

WRITE, WIRE OR CALL FOR CATALOGS, PRICES, AND NAME OF NEARBY DISTRIBUTOR

FROMMELT INDUSTRIES, INC.
DUBUQUE • IOWA
The Name to Remember in Approved Protective Products!

For more details circle **NED-122 B1** on enclosed inquiry slip

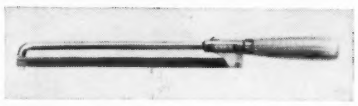
ULTRASONIC CLEANERS
models with 1, 2, and 3 chambers



All controls are mounted on the sloping front panel of these console type ultrasonic cleaners, housed in 30 or 36-in. high cabinets with Type 304 stainless steel tops. One, two, or three-chamber cabinets have recessed foot space, backsplash panels, and hinged tops. Single tube generators are in a half-wave self-rectifying oscillator circuit. The two-chamber console for use with solvents has cleaning and spray rinse chambers. Three-chamber model for water-based cleaners contains a forced air heater to dry the cleaned parts. Each type is available in six sizes from 2 to 13 gal. Accessories include 0 to 60-min timer, 0 to 15-min automatic reset timer, line voltage switch and meter, heaters with thermostat, recirculating filters, and solenoid operated hot and cold water inlet switches and drain valves. Price range is from $895 to $3000. • **National Ultrasonic Corp.**, 111 Montgomery Ave., Irvington 11, N. J.

For more details circle **NED-123 B1** on enclosed inquiry slip

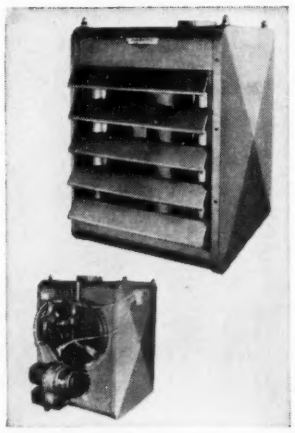
SLIM HACK SAW
for cutting in tight locations



Because it is only 1¼ in. deep, this Slim Jim hack saw is easy to use, even in tight places. The 10-in. hack saw blade is held rigidly and is tightened with twist of the handle. Price complete with blade is $1.39. • **M-M-A, Inc.**, Lancaster, Pa.

For more details circle **NED-124 B1** on enclosed inquiry slip

OIL-FIRED UNIT HEATERS
deliveries up to 3200 cfm



UL-approved PowRmatic oil-fired unit heaters, for inexpensive installation in warehouses, garages, factories, and open areas, utilize a gun type burner for low-cost No. 2 fuel oil. Units are offered in 80,000, 140,000, and 180,000 Btu outputs, in deliveries up to 3200 cfm with a 50-ft throw. They are self-contained, factory assembled and wired, and have three M-H controls. Units are also offered as blower heaters in various sizes. • **Kresno-Stamm Corp.**, 400 Commercial Ave., Palisades Park, N. J.

For more details circle **NED-125 B1** on enclosed inquiry slip

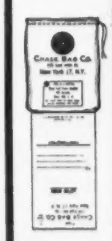
This "Twin" Does Double Duty!

...carries your goods!...gets your message across!

CHASE RED-TYE TWIN-MAILER BAGS

Cuts costs all around—with an intriguing package that gets attention. Sturdy 4½" x 6" cambric bag carries your product third class...attached 3⅞" x 7½" kraft envelope carries your first-class letter or invoice. Both arrive together—you save packaging time, postage, headaches! Hundreds of everyday uses. Low-cost Chase Twin-Mailers come printed from type in one color (one side—both bag and envelope) to your order, at the prices quoted. Or write us about special printing.

ORDER NOW—USE THIS HANDY FORM!



CHASE BAG COMPANY
Dept. NED
Reidsville, North Carolina

Here's my order for _____ Red-Tye Twin-Mailers, described in ad.

QUANTITY PRICES

500	1000	5000
$49.25 per M	$38.40 per M	$36.80 per M

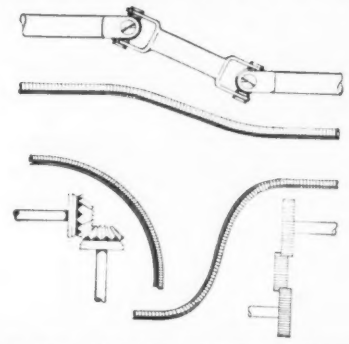
Terms: 2% 10 days net 30 f.o.b. Reidsville, North Carolina (subject to approved credit)

Print my Twin-Mailers as follows:

NAME OF COMPANY _____
ADDRESS _____
CITY _____ ZONE ____ STATE _____
YOUR SIGNATURE _____

For more details circle **NED-126 B1** on enclosed inquiry slip

FLEXIBLE SHAFTING REDUCES GEARING



Flexible Shafting reduces the noisy and cumbrous gearing used in conjunction with solid shafts. It has the ability to transfer power from remote places, over, under, and around obstacles found in the path of installation between the drive and the driven units. Flexible Shafting requires very few parts, making them inexpensive; whereas solid shafts using universal joints, miter gears, and gear trains, many times would not be feasible because of their noisiness or lack of economy. With a Flexible Shaft assembly, design may be simplified and your engineering time spent on other necessary component parts without having to worry that they will create obstacles when placed where you want them.

Flexible Shafting cuts down on vibration thus offering long life with very little maintenance required. For complete Flexible Shaft information, write F. W. Stewart Corporation, 4311 Ravenswood Ave., Chicago 13, Illinois.

For more details circle **NED-127 B1** on enclosed inquiry slip

ringside view of United's **exclusive feature** for

Pressure Tight Seals

United's exclusive, patented* self-energized metallic O-rings are circular tubes vented by tiny holes drilled in the ring wall. The holes allow contained pressure to enter the ring which then forces ring wall to form positive pressure-tight seals under high pressure.

In metal-to-metal applications, self-energized metallic O-rings are capable of forming positive, permanent, non-corrosive static seals under extreme temperatures from —321°F. to 1800°F., and under pressures equal to ultimate compression stress of the metal itself. Available in various metals and finishes, ⅜" dia. to any size or configuration. United also makes non-vented and pressure-filled O-rings; and wire and brazing O-rings. Write for free 22-page booklet (on your letterhead please).

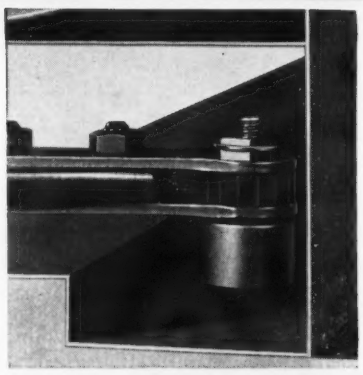
PATENTS 2,809,269; *2,837,360

UNITED METALLIC "O" RINGS
manufactured by
United Aircraft Products, Inc.
Box 1035 • Dayton, Ohio

For more details circle **NED-128 B1** on enclosed inquiry slip

the most difficult fastening jobs...

...can be simplified with APEX Fastening Tools



Running a nut down on a stud is a very simple job, unless the stud is confined in a deep recess where a straight tool can't reach it, and where an angle tool won't provide the necessary clearance for the stud.

In this case, you merely put an Apex bolt-clearance type socket, designed for use with ratchet wrenches, on the tool, and you'll find you're right back to a very simple nut running job.

That's the way it goes with the difficult fastening jobs . . . Nearly all applications can be handled easily and economically with one of the more than 5,000 stock types and sizes of Apex Nut Running Tools. And for those few unusual applications, "we quote promptly on specials."

If you fasten anything with nuts, bolts or screws, write, on your company letterhead please, for **CATALOG 30-A** Nut Running Tools, ¼" to ⅝" square, hex drives. **CATALOG 30-B** Nut Running Tools, ¾" to 3½" square, hex drives. **CATALOG 30-C** Screwdriving Tools.

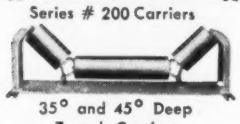
APEX FASTENING TOOLS
The APEX Machine & Tool Co.
1046 So. Patterson Blvd.
DAYTON 2, OHIO

For more details circle **NED-129 B1** on enclosed inquiry slip

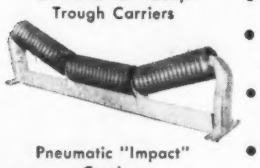
MORE QUALITY ENGINEERED FEATURES IN STEPHENS-ADAMSON CARRIERS

Series #700 Carrier

Series # 200 Carriers



35° and 45° Deep Trough Carriers



Pneumatic "Impact" Carriers

ADVANTAGES

- Spun-end roller assemblies and parts interchangeable for quick installation.
- One-Piece, all-steel, welded frame construction.
- Positive lubrication . . . pre-lubricated at factory . . . provisions for field lubrication.
- Roller brackets tilt two degrees in direction of travel for greater belt training effect.
- Die-cast labyrinth bearing seals keep grease in . . . dust and dirt out.

WRITE FOR BULLETIN 760

STANDARD PRODUCTS DIVISION
STEPHENS-ADAMSON MFG. CO.
12 RIDGEWAY AVENUE • AURORA, ILLINOIS
PLANTS LOCATED IN LOS ANGELES, CALIFORNIA
CLARKSDALE, MISSISSIPPI • BELLEVILLE, ONTARIO

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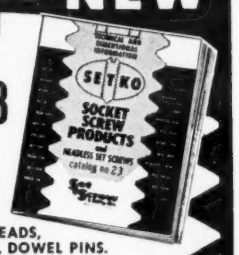
now! get this NEW

problem-solving money-saving

Setko Catalog 23 FREE



- INCLUDES NEW SELF-LOCKING SET SCREW SELECTOR CHART
- LATEST STYLES OF SOCKET SCREWS INCLUDING: BUTTON HEADS, FLAT HEADS, SHOULDER SCREWS, DOWEL PINS.
- COMPLETE INFORMATION ON THE COST-CUTTING SETKO HOPPER FEED METHOD OF INSERTING SET SCREWS.

Lists all standard set screws and socket screw products . . . plus many special types designed for unusual conditions of vibration; close precision setting, resistance to tampering, etc. Describes many specific ways in which Setko Set and Socket Screw products cut costs and improve product quality.

Partial Contents of New Setko Catalog 23:

- Hopper-Fed Headless Set Screws, with New Automated Feed System
- Self-Tapping Set Screw Standard Hexagon Socket
- Zip-Grip Self-Locking®
- Nu-Cup Set Screws® Self-Locking Offset
- Point-Lok, Flush-Lok, Spred-Lok®
- Isothermal Heat-Treated Set Screws

*Indicates Setko Set Screw "Firsts"!

Stainless Steel Set Screws, Cap Screws, Button Heads, Flat Heads, Shoulder Screws, Dowel Pins and Pipe Plugs

Set Screw & Mfg. Co. send for FREE catalog 23 today!

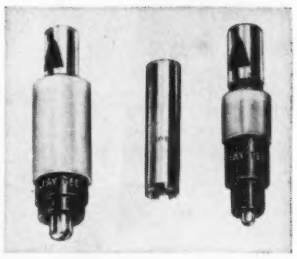
Use letterhead—or write name and address in margin of this page, tear out ad and mail.

130 Main Street, Bartlett, Illinois (Chicago Suburb)

We Specialize in Solving Puzzling Set Screw Problems

For more details circle **NED-131 B1** on enclosed inquiry slip

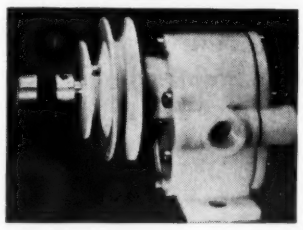
STAKING TOOLS used on various types of presses



Expanded and improved line of staking tools includes the new JTM type available in 19 sizes from 0.125 to 0.406 in. in 1/64-in. increments. Original Type 1 is now available in 10 sizes with 0.265 to 0.406-in. diameters, whereas Type 2 ranges from 0.125 to 0.250 in. Both are offered in 1/64-in. increments. Staking tools are used in conjunction with indexing fixtures on all types of air, hydraulic, kick arbor, and impact presses for staking of ferrous and nonferrous metals. The two original types now incorporate a built-in pilot pin, made slightly oversize so that it can be turned down for exact fit in the work. • **Jay-Tee Mfg. Co.,** 1515 N. 25th Ave., Melrose Park, Ill.

For more details circle **NED-133 B1** on enclosed inquiry slip

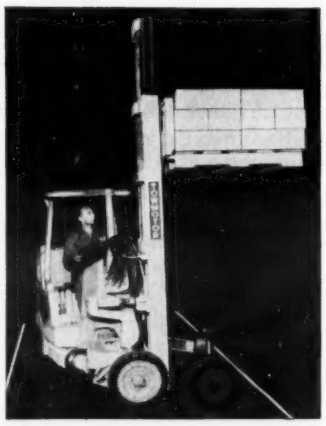
MOLDED PLASTIC PUMP will handle practically any liquid



All major parts of this gear type pump are molded from Delrin which is as tough and strong as most metals and is unaffected by most chemicals. Close tolerances contribute to efficient leakproof operation. Pump is suited for use in pharmaceutical, chemical, food, dairy, appliance, automotive, industrial, and other industries. • **Planet Products Corp.,** 221 N. LaSalle St., Chicago 1, Ill.

For more details circle **NED-134 B1** on enclosed inquiry slip

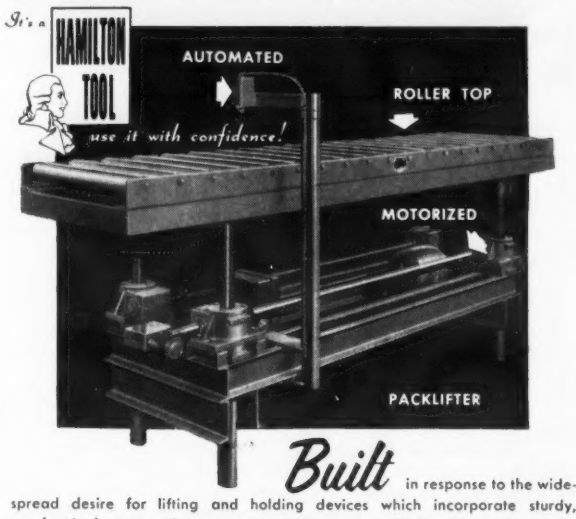
ARTICULATED LIFT TRUCK for aisles as narrow as 6 ft



The entire hydraulically operated front end assembly of this Naro-Aisle-Stack fork lift truck pivots 90 degrees for loading and unloading parallel to tiers. Usable as a conventional fork lift, it can be maneuvered in aisles as narrow as 6 ft. This 4000-lb capacity industrial truck has various lift heights through the use of optional masts. • **Towmotor Corp.,** 16100 Euclid Ave., Cleveland 12, Ohio.

For more details circle **NED-135 B1** on enclosed inquiry slip

This, too, is PORTELVATOR®

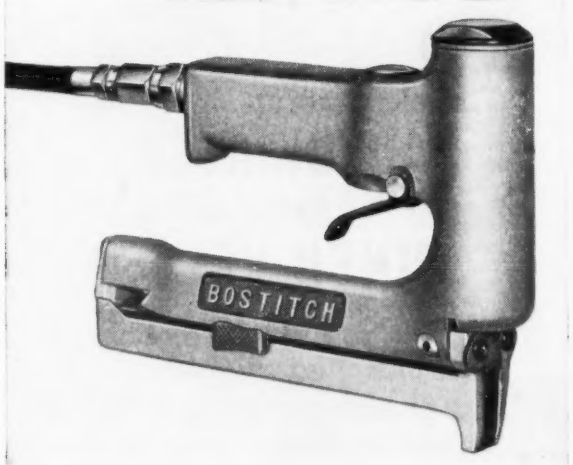


Built in response to the widespread desire for lifting and holding devices which incorporate sturdy, *mechanical* means of power transmission and *multiple* points of support; *the very features* which have made "standard" Portelvator the most successful device of its kind! Write for literature describing this packlifter and many other special applications of the Portelvator Power Transmission System. ***Ask for FREE Bulletin No. 2970.***

THE HAMILTON TOOL COMPANY
901 HANOVER STREET HAMILTON, OHIO

For more details circle **NED-136 B1** on enclosed inquiry slip

new low-pressure BOSTITCH T21 AIR TACKER operates on 20 p.s.i.



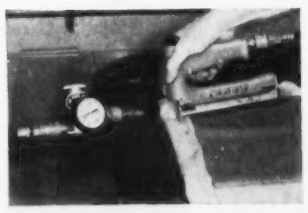
Low-pressure, high-speed Bostitch T21 for hard-hitting air stapling with as little as 20 p.s.i. on many tacking jobs. Operating range from 20 to 90 p.s.i. permits use of the exactly correct pressure. Balancing pressure to job cuts recoil and tacker wear, reducing costly down time and operator fatigue. Low pressure cuts operating expense.

You can increase production capacity. Convert to a larger number of low-pressure Bostitch T21s on your present air system.

TWO WIRE SIZES

.025" round wire staples — low cost with penetrating and holding power often superior to comparable flat wire.

.050" x .019" staples — two magazines provide quick change-over to staple lengths from 3/16" x 9/16".



"Test Drive" Demonstration
A Bostitch Economy Man will set up a T21 with pressure regulator and gauge in your plant. Circle our number on the Reader Service Card.

Fasten it better and faster with

BOSTITCH®
STAPLERS AND STAPLES
682 Briggs Drive, East Greenwich, R. I.

For more details circle **NED-137 B1** on enclosed inquiry slip

Cleaning motors • generators • plant equipment?

Here's what **TURCO-SOLV** *Controlled Evaporation* means to you:

EFFICIENCY • Stays wet and working just long enough to clean thoroughly in a minimum of time.

SAFETY • Drastically reduces solvent vapors in the air, minimizing toxicity and flammability.

ECONOMY • Reduces consumption of material. Eliminates "touch up." Gives you a "bigger gallon."

Write for FREE BROCHURE! Reveals flammability, toxicity, efficiency and evaporation ratings of various safety solvents available on the market today!

TURCO PRODUCTS, INC.
CHEMICAL PROCESSING COMPOUNDS
24600 South Main Street, Wilmington, Calif.
Factories: Chicago, Houston, Los Angeles, London, Rotterdam, Sydney, Mexico City, Paris, Montreal, Hamburg, Naha (Okinawa)
Manufactured in Canada by B. W. Deane & Co., Montreal
OFFICES IN ALL PRINCIPAL CITIES

For more details circle **NED-132 B1** on enclosed inquiry slip

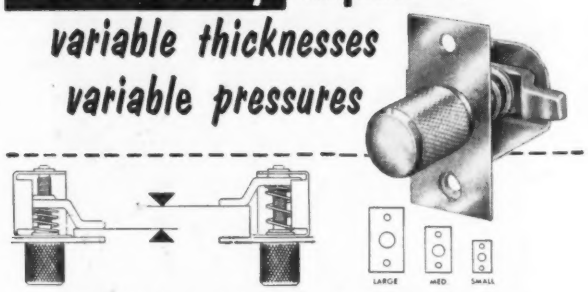
THIS DOOR FASTENER

...with the turn of a knob...

automatically adjusts to

variable thicknesses

variable pressures



with just a turn of the knob . . . thick or thin . . . as light or as tight as desired

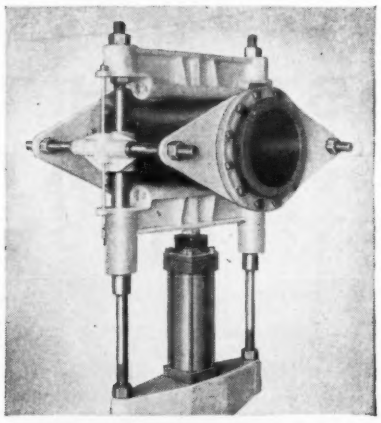
Pre-assembled for fastest installation. Three standard body sizes with a choice of pawls covering a wide range of grip lengths.

Also available are left-hand models, fixed adjustable pawls and flush screwdriver-operated heads.

Write for full information. SOUTHCO DIVISION, SOUTH CHESTER CORPORATION, 243 Industrial Highway, Lester, Pa.

SOUTHCO FASTENERS LION

For more details circle NED-138 B1 on enclosed inquiry slip



AUTOMATED

Hydral-60

PINCH VALVE SYSTEMS

Controlled circuitry for any operating requirements

- The Massco-Grigsby Hydral-60 System consists of one or more pinch valves with a single automatically operated hydraulic pump.
- Hydraulic pump may be operated by electric motor or by air from normal plant supply system.
- Valves may be the same or different size.
- Valves in the system may be operated simultaneously or independently.
- Control valve may be manual or solenoid.
- Valves may be coordinated and interlocked with other plant equipment to automatically control tank levels, rate of flow, etc.
- Valves are self-supporting and may be operated in any position from horizontal to vertical.
- Valves may be independently controlled for normal or rapid closure.
- Valves may be held fully open, fully closed, or at intermediate positions.
- Remote control to meet individual requirements.
- Controls may be included for automatic emergency operation.
- 3" to 14" I.D. sizes, with 50, 100, and 150 psi line pressure ratings.
- Temperatures to 200° F.

WRITE FOR NEW CATALOG NO. 609

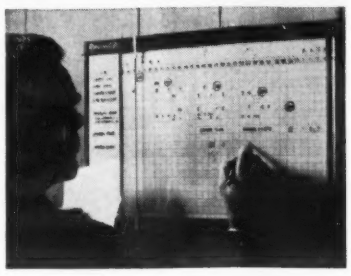
Manufacturing Division

MINE AND SMELTER SUPPLY CO.

3800 RACE STREET • DENVER, COLORADO
OFFICES AND AGENTS IN PRINCIPAL CITIES

For more details circle NED-139 B1 on enclosed inquiry slip

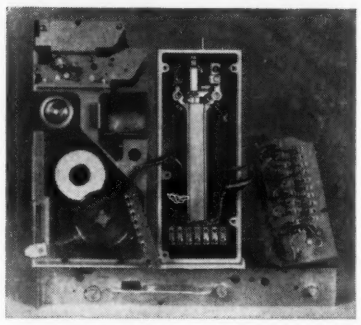
SCHEDULE & CONTROL BOARD
easily carried to meetings



Production control and scheduling, setting up appointments or reservations, scheduling sales quotas and contests, and assigning time on data processing equipment are among the many uses for The Rol-a-Chart Jr. visual control board. Similar to larger sizes offered, it consists of a stationary index and an endless, transparent plastic sleeve that moves across a fixed grid. The sleeve is moved ahead each day or week. Entries made with a marking pencil are removed with a wiping cloth. Rol-a-Chart Jr. is 21½ in. wide, 14 in. high, and 1⅝ in. deep. It has index space for 40 vertical entries and the plastic sleeve has space for 154 quarter-inch spaces horizontally. The board can be hung on a wall, used at a desk, or carried to meetings. Price is $24.50. • **Conley, Baltzer & Steward**, Rol-a-Chart Div., 494 Jefferson St., San Francisco 9, Calif.

For more details circle NED-140 B1 on enclosed inquiry slip

PROCESS POTENTIOMETER
strain gage is rebalancing element in strip and circular chart types



Infinite resolution is achieved in the ElectroniK 17 industrial process potentiometer through the Stranducer, an accurate electromechanical strain gage used as the rebalancing element. It varies output potential of measuring circuit to balance input from process variable. Unit is rack or panel mounted, can be made portable, and is offered in pen strip and circular chart types with or without plug-in transistorized controls.

Components are shielded against stray 60-cycle rms values five times greater than span and voltage-to-ground strays of 300 v dc or 150 v ac. With input-circuit and voltage-amplifier impedance in excess of 100,000 ohms, unit can handle source impedances of 50,000 ohms. Interchangeable solid state and vacuum tube amplifiers are available.

Instruments have pen speeds of 1, 5, and 15 sec and are rated 107 to 127 v ac with ambient range of 30 to 110° F. Calibrated accuracy is ±0.25 per cent of span. • **Minneapolis-Honeywell Regulator Co.**, Brown Instrument Div., Wayne & Windrim Avenues, Philadelphia 44, Pa.

For more details circle NED-141 B1 on enclosed inquiry slip

HYDE Circulars

You get accurate speed cutting with every Hyde Circular Knife. Hyde Circular Knives now cutting asbestos, cardboard, canvas, food, fruits, gaskets, hose, leather, meats, paper, plastic, rubber, tapes, textiles and many other materials. Send your specifications or write for free pocket catalog.

HYDE MFG. CO., SOUTHBRIDGE, MASS., U.S.A.

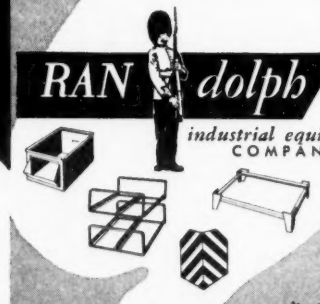
For more details circle NED-143 B1 on enclosed inquiry slip

ARE YOU STACKED- (PROPERLY)?

IF NOT — YOU'RE MISSING A GOOD BET!

get your plant in shape with Randolph's newest, most versatile line of all steel small parts handling equipment, that's built right and priced right . . .

RAN dolph industrial equipment COMPANY



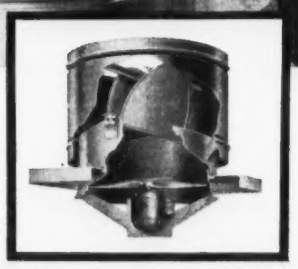
10111 W. FRANKLIN AVE. • FRANKLIN PK., ILL.

write today— Cat. No. 6605

For more details circle NED-144 B1 on enclosed inquiry slip

RAIN CAN'T ENTER SKY-BLAST® ROOF VENTILATORS!

Powerful exhaust keeps out rain, snow, sleet. SKY-BLAST needs no throttling weather covers, so more air is moved at less cost. Wind velocity or direction can't affect performance. At rest, butterfly dampers form watertight seal. Other weatherproof features include: galvanized heavy gage steel surfaces . . . nonclogging rainshed . . . low wind guard . . . rugged base and condensate drain. Ratings to 78,000 CFM. Write for Bulletin 680-NE

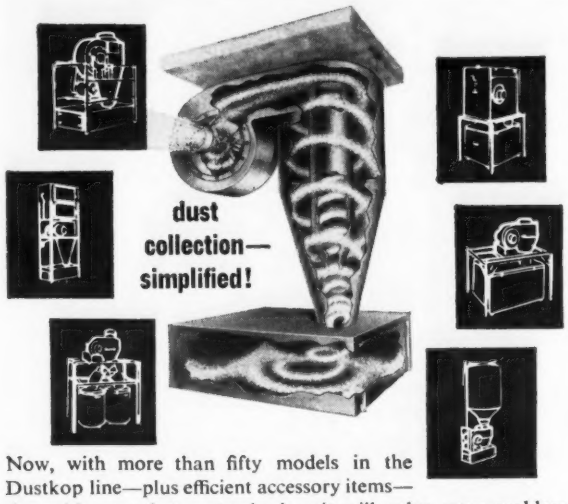


PROPELLAIR®

Div. of ROBBINS & MYERS, INC., SPRINGFIELD, OHIO

DIRECT CONNECTED · TUBEAXIAL · EXTENDED SHAFT · MAN COOLER

For more details circle NED-142 B1 on enclosed inquiry slip



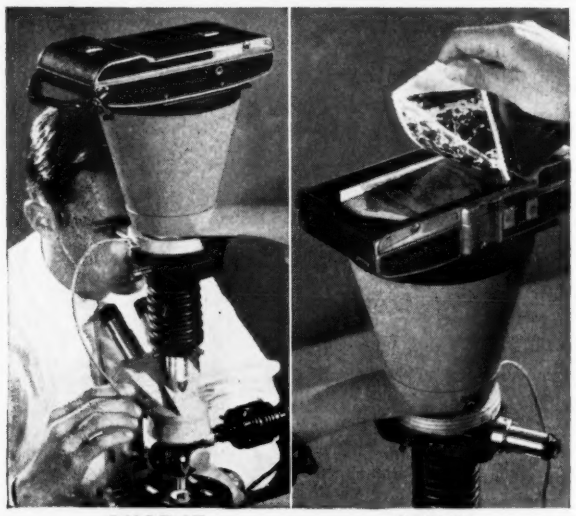
Now, with more than fifty models in the Dustkop line—plus efficient accessory items—the odds are that a standard unit will solve your problem. Dustkop units solve other problems too. They're easier to install, save space and money and are virtually maintenance-free!

how to select a dust collector

This new brochure includes all basic information needed to select the right dust or mist collector for grinding, buffing, polishing and other types of service. Write for your copy. No obligation.

AGET Manufacturing Company
1396 Church St., Adrian, Michigan
DUSTKOP STOPS DUST

For more details circle **NED-145 B1** on enclosed inquiry slip



SNAP IT SEE IT

AO Spencer Picture-in-a-minute Photomicrography

When you use the AO Spencer Photomicrographic Camera equipped with the Polaroid Land Camera back, permanent photographs are ready in just 60 seconds. A coupled system lets you shoot what you see . . . quickly and easily. (Here, the No. 682G Camera is used with the new AO Metalstar Metallurgical Microscope . . . an ideal combination). In addition to the Polaroid Land Camera back, you have a choice of 4 other readily interchangeable backs. Write for full information.

American Optical Company
SPENCER Instrument Division • Buffalo 15, New York

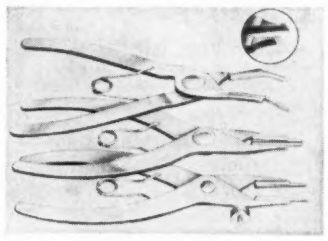
For more details circle **NED-146 B1** on enclosed inquiry slip

FIRE EXTINGUISHERS
10 and 20-lb dry chemical types

When discharged, the dry chemical used in All-Use fire extinguishers provides a dense atmosphere that smothers Class A, B, or C fires. The 10-lb Model P-10 is a compact, lightweight unit UL-rated at 1A:16B:C. Higher capacity and ratings for protection of larger risks are provided by 20-lb Model P-20. Both are suitable for industrial, commercial, farm, and marine fire protection. • **Sterling Precision Corp.**, American LaFrance Div., 54 E. LaFrance St., Elmira, N. Y.

For more details circle **NED-148 B1** on enclosed inquiry slip

RETAINING RING PLIERS
straight and angle tip styles

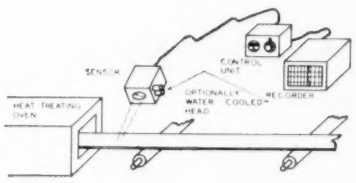


Nine sizes of fixed-tip pliers for retaining ring applications have tip sizes ranging from 0.022 to 0.090 in. Made of alloy steel with a bright chromate finish, the line includes three straight tip and five angle tip styles, plus C-ring tips for crescent and E type rings. All are available with plier springs. Industrial sizes have micrometer type stop and utility models are available without spring or stop in both internal and external types. • **Milbar Corp.**, 1900 Euclid Ave., Cleveland 15, Ohio.

For more details circle **NED-149 B1** on enclosed inquiry slip

HEAT DETECTOR
checks 120 to 1200° F temperatures

Field of view of this infrared optical head is 1/30 of the working distance of 30 in. when used in high temperature zones to sense surface temperatures from 120 to 1200° F. Sensor is connected to a portable, direct reading Radiometer unit or to a modified recorder for experimental work. The sensing head can also be linked to automatic controls. Stability is ±2° F and accuracy is ±2° F over a 100 to 300° F range. The sensing system works down to 2 microns. Infrared detection device is used where material is in motion or would be damaged by contact, such as in heat treating mills and in plastic extrusion and laminating work. It is also applicable where electromagnetic fields prevent the use of thermocouples. • **Williamson Development Co.**, 317 Main St., West Concord, Mass.



For more details circle **NED-150 B1** on enclosed inquiry slip

INDUSTRIAL INKS To Mark Anything!

Whatever the substance, Phillips has an ink to mark it permanently and legibly—or can make one. Marking experts insist on "Clear Print" Wood Block Stamp Pads and Opaque Inks. They get clear, sharp, fast-drying impressions. Also inks for brush, pen, stencil or machine application available in a variety of colors and quantity containers.

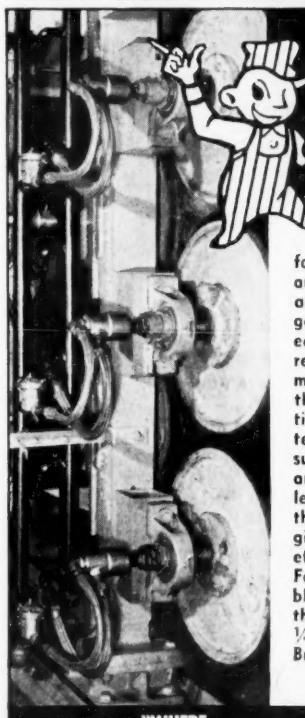
★ Quick Laboratory Service On Your Problem Markings

★ To Permanently Mark . . . Metals, Plastics, Glass, Wood, Paper, Leather, Ceramics—glazed, varnished or lacquered surfaces and virtually every other known material.

For Complete Information Phone BAker 5-8201 or write:

PHILLIPS PROCESS CO. INC.
192 MILL STREET
ROCHESTER, NEW YORK

For more details circle **NED-152 B1** on enclosed inquiry slip



The ROTARY UNION* the trouble-free Rotating Seal

The Rotary Union automatically compensates for fluctuations in line pressure and always delivers the correct amount of heating or cooling gases or liquids to revolving equipment. The Rotary Union requires no adjustments or mechanical maintenance and thus saves on labor and downtime. Its floating action protects its optically flat sealing surfaces from stress and strain and assures extremely long leakproof service. Also shown is the Unitrap Model 70T which gives you faster warm up and efficiently removes condensate. For long, accurate, and trouble-free service, standardize on the Rotary Union. Pipe sizes ¼" through 5". Write for Bulletins 700 and 800 today.

*Trade Name—Patented

"WHERE *Good Connections* COUNT"®
PERFECTING SERVICE COMPANY, 332 Atando Ave., Charlotte, N.C.
Baltimore—Buffalo—Camden, N. J.—Chicago—Cleveland—Los Angeles
New York—Providence—Montreal—Toronto

For more details circle **NED-153 B1** on enclosed inquiry slip

Alan Wood Super Diamond floor plate is . . . EASY TO BEND

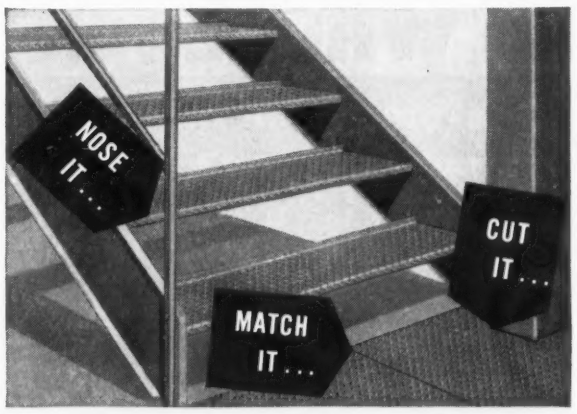
Form this heavy duty floor plate to fit steps, ramps and walkways...it bends readily. Fabrication is easy. You can shear A. W. Super Diamond, weld it and match it wherever necessary.

A. W. Super Diamond provides a safe, non-skid footing . . . won't chip, splinter or crack. It's easily swept, mopped or hosed from any direction and drains freely.

For easy fabrication and installation . . . for safety . . . for long wear . . . specify A. W. Super Diamond. Write for Bulletin SD-S2.

ALAN WOOD STEEL COMPANY
Conshohocken, Pa.
Also manufacturer of the world's only abrasive rolled steel floor plate—A. W. ALGRIP

For more details circle **NED-147 B1** on enclosed inquiry slip



Alan Wood Super Diamond floor plate is . . . EASY TO FABRICATE

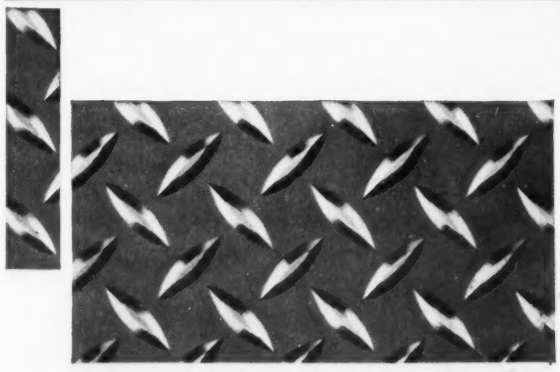
Here's a heavy duty floor plate that can be sheared, formed, welded, and easily matched. The arrangement of the unique "A. W." pattern allows you to bend it at any place.

A. W. Super Diamond will last for years . . . provides a safe, non-skid footing at all times. A. W. Super Diamond can be swept, hosed or mopped easily . . . from any angle.

For easy fabrication and installation . . . for safety . . . for long wear . . . specify A. W. Super Diamond. Write for Bulletin SD-S2.

ALAN WOOD STEEL COMPANY
Conshohocken, Pa.
Also manufacturer of the world's only abrasive rolled steel floor plate—A. W. ALGRIP

For more details circle **NED-151 B1** on enclosed inquiry slip



SHEAR IN ANY DIRECTION
Alan Wood Super Diamond Floor Plate
...IS EASY TO MATCH

Non-directional pattern makes matching easy.

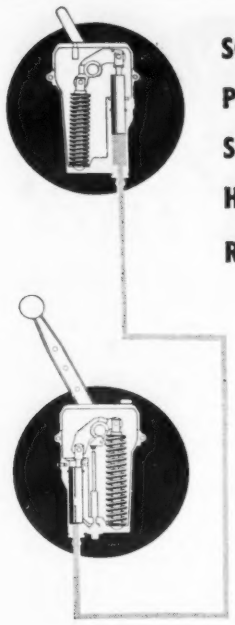
- shear it . . . easily cut with standard shop equipment.
- form it . . . arrangement of unique pattern lets you bend it at any place.
- weld it . . . can be easily and quickly welded by ordinary welding methods.

For fabrication ease . . . for safety . . . for long wear . . . specify Alan Wood Super Diamond floor plate.

Write for Bulletin SD-S2.

ALAN WOOD STEEL COMPANY
Conshohocken, Pa.
Manufacturer of the world's only abrasive rolled steel floor plate—A. W. ALGRIP

For more details circle **NED-154 B1** on enclosed inquiry slip



SOLVE LINKAGE PROBLEMS WITH SPERRY SINGLE TUBE HYDRAULIC REMOTE CONTROLS

Eliminates costly linkage designs. Sperry Controls give positive action, no sponginess . . . easily installed . . . rugged and reliable . . . maintenance free operation. Typical applications include throttle and governor control, feed and valve control, variable speed and clutch control or anywhere that accurate, instant duplication of movement is required.

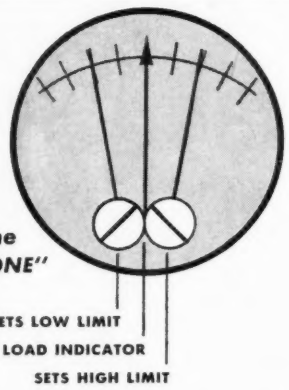
SPERRY PRODUCTS COMPANY
DIVISION OF HOWE SOUND COMPANY
DANBURY, CONNECTICUT

Representatives in principal cities

▲ For more details circle NED-156 B1 on enclosed inquiry slip ▲

MONITRON

PREVENTS COSTLY MACHINE MALFUNCTION



Operates your machine in its "SAFETY ZONE"

Sperry MONITRON® continually measures the wattage load of the machine's drive motor and instantly initiates a control action when pre-set load limits are exceeded.

- Detects overloads on metalworking machines
- Improves product quality on batch mixing
- Regulates material flow on conveyers

A necessary accessory to any automated machine.

30-DAY FREE TRIAL Price $271

SPERRY PRODUCTS COMPANY
DIVISION OF HOWE SOUND COMPANY
DANBURY, CONNECTICUT

Representatives in principal cities

▲ For more details circle NED-157 B1 on enclosed inquiry slip ▲

Babbitt *Adjustable* **SPROCKET RIM** *with Chain Guide* **CHANGES THAT DANGER ZONE TO A SAFETY ZONE**

enables you to ADD PLANT AREA

If re-aligning equipment will yield more working space, better production, lower costs . . . do it now. Save all space wasted for placing ladders to reach overhead valves. At the same time, convert Danger Zones to Safety Zones. Equip every overhead valve wheel in your plant with Babbitt Adjustable Sprocket Rims with Chain Guides.

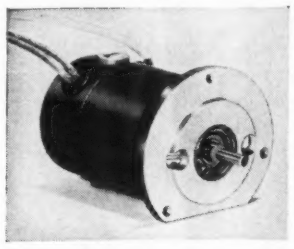
- They simplify pipe layout.
- They fit any size valve wheel.
- They are easy to install and operate.
- They operate any valve from the floor.
- They save time and money.
- The first cost is only cost (no maintenance).
- They are packed completely assembled (one to a carton), with easy-to-follow instructions.
- A hot-galvanized rust proof chain is available for all sizes.

Babbitt Adjustable Sprocket Rims with Chain Guide are carried in stock by most mill supply houses. Just phone your mill supply salesman, or contact us direct.

Babbitt STEAM SPECIALTY CO.
16 BABBITT SQUARE, NEW BEDFORD, MASS., U. S. A.

▲ For more details circle NED-158 B1 on enclosed inquiry slip ▲

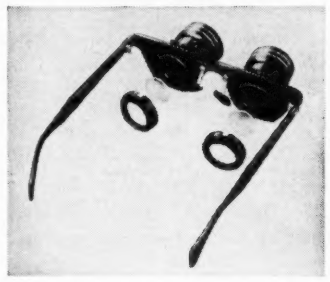
MINIATURE MOTORS equipped with ball bearings



DS-105 group of precision continuous or intermittent duty motors can be built for direct-current operation as shunt-series or split-field type, or as alternating-current type universal motors for 6 to 115-v operation. At 8000 rpm the direct-current version develops 1/100 hp; alternating-current models develop 1/200 hp. Motors weigh 11 oz, have 1.687-in. OD, and are 2.562 in. long, plus the standard 1-in. shaft. Other lengths of ¼-in. diameter shaft can be specified. The JAN specification ball bearing motors are available with or without a flange mounting bracket. • **Heinz Mueller Engineering Co.,** 4725 W. Iowa St., Chicago 51, Ill.

▲ For more details circle NED-159 B1 on enclosed inquiry slip ▲

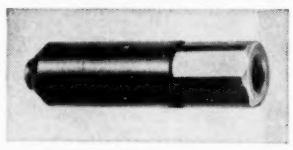
3-POWER SPECTACLE-LOUPE comfortable to wear for close work



Providing important visual aid to inspection, instrument, and other workers, Allscope spectacle type loupe has 3-power magnification. Both eyes are focused naturally and comfortably on work at a normal distance of 12 in. Fatigue is minimized. Features include adjustable nosepiece and pupillary distance, flexible temples, light weight, coated nonglare optics, and sharp focus. Price is $49.50. • **Wollensak Optical Co.,** 850 Hudson Ave., Rochester 21, N. Y.

▲ For more details circle NED-160 B1 on enclosed inquiry slip ▲

RECYCLING POPPET VALVE releases static air quickly



Novi-Matic recycling bleeder type poppet valve is used primarily for actuating four-way bleeder type air control valves. Pressing of its plunger automatically eliminates static air pressure from the pilot chamber and opens the poppet at the bottom of the valve. When all static air is released, the poppet reseats even though the plunger remains depressed. Four-way bleeder type valve can be actuated in the opposite direction while the recycling poppet valve plunger is still depressed. Poppet valve is 2⅜ in. long, ¾ in. in diameter, and has a ⅛-in. NPT inlet. • **Novi Tool & Machine Co.,** Novi-Matic Valve Div., 25806 Novi Rd., Novi, Mich.

▲ For more details circle NED-161 B1 on enclosed inquiry slip ▲

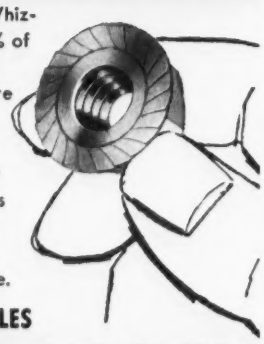
SAMPLES ON REQUEST—

MF WHIZ-LOCK®

One-piece free spinning lock nut that won't let go...

—SO SIMPLE THEY'LL AMAZE YOU, SO *ORIGINAL* THERE'S A PATENT PENDING

MacLean-Fogg's new job-tested Whiz-Locks are the ideal solution to 80% of all lock nut problems. Check these points: (1) Whiz-Locks spin on—are wrenched tight in an instant. (2) Exclusive Whiz-Lock serrations take a firm, dependable grip that won't let go. (3) Removal-torque is more than 25% greater than on-torque. (4) They're reusable. (5) Whiz-Locks save assembly time.



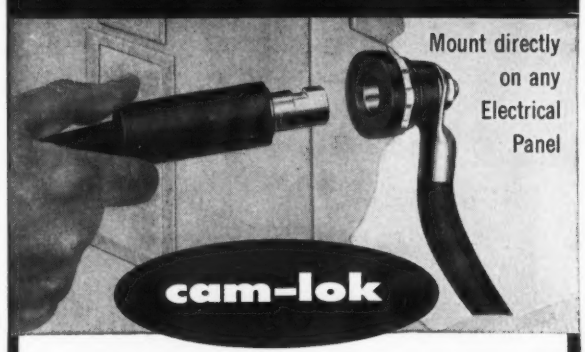
CIRCLE NUMBER FOR SAMPLES

MAC LEAN-FOGG MF LOCK NUTS

MacLean-Fogg Lock Nut Company
5535 N. WOLCOTT AVENUE, CHICAGO 40, ILLINOIS

▲ For more details circle NED-162 B1 on enclosed inquiry slip ▲

New Hi-Impact Plastic Insulated **Panel Receptacles and Mating Plugs**



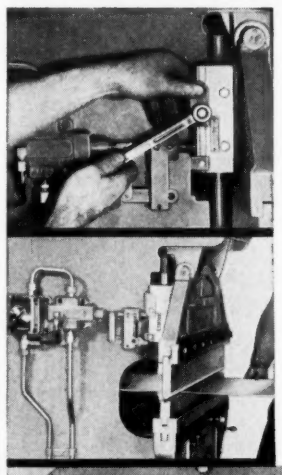
Cam-Lok self-insulated Receptacles mount with standard electrical lock-nuts on *any* metal panel, *without* costly, special insulation. Affords "dead front" protection and positive full-power connections. Plugs lock tight, release quickly. Eliminates special insulated panels on your products and reduces assembly time.

Write today for new Bulletin #301 on the complete line.

cam-lok DIVISION

EMPIRE PRODUCTS, INC.
9213 C Blue Ash Rd.
Cincinnati 42, Ohio

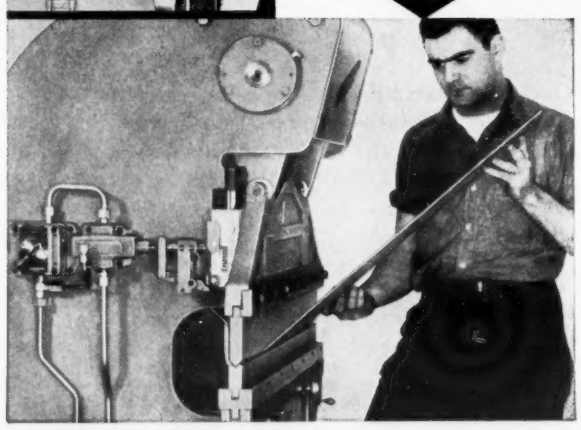
▲ For more details circle NED-163 B1 on enclosed inquiry slip ▲



❶ Adjusting Letup Control takes only seconds.

❷ Ram speed reduced 50 per cent as die enters sheet.

❸ After "form" part of stroke is complete ram resumes maximum speed on return stroke. Operating cycle with Letup Control is Rapid Travel to Work—Slow Form—Rapid Travel on Return Stroke.



Letup Control on New High Speed

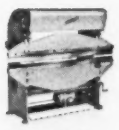
HYDRAULIC PRESS BRAKE

★ *Eliminates whipping of material when forming*

★ *Makes for fast, safe forming of large sheets*

An adjustable flow control valve is the basic element in the Letup Control, an accessory for all Di-Acro Hydra-Power Press Brakes.

Models with 3′, 4′ and 6′ bed and ram have Stroke Adjustment, speed from 32-80 strokes per minute, capacities of 16, 18 and 20 gauge mild steel. These and other *features exclusive to hydraulic press brakes* spell out *Efficient, Safe* operation for a rapidly growing list of satisfied customers.

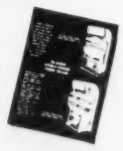


DI-ACRO HYDRA-POWER PRESS BRAKE

To eliminate work marking, try Di-Acro Rol-form Dies. Also a complete line of standard Di-Acro Press Brake Dies are available.

Find Us Fast in The Yellow Pages

Consult the yellow pages of your telephone directory under machinery, machine tools for the name of your Di-Acro distributor or write us for Quick Facts Folder describing this and other Di-Acro Machines.



di-acro PRECISION METALWORKING MACHINES

pronounced die-ack-ro

DI-ACRO CORPORATION
Formerly O'Neil-Irwin Mfg. Co.
782 8th Avenue • Lake City, Minnesota

▲ For more details circle NED-164 B1 on enclosed inquiry slip ▲

CONSIDERING NEW CUTTING MACHINES?

Yes?—? Then before you commit yourself you should investigate

"CUT-MACHINING"

DON'T wait and BE UNHAPPY later!

Hundreds of men are more than happy with their choice of a Wallace "Cut-Machining" Unit.

Phone Klaus von Frantzius. Collect, of course.

His bread and butter depends on how well he matches the right cutting unit to the work you must do.

With a Wallace "Cut-Machining Unit" you will get:

PIPE • TUBE • BARS • ANGLES • CHANNELS • PLATE!

No matter what, you get 2 finished ends each time you make 1 cut. Guaranteed? Sure! Since 1896.

"You must be satisfied or you owe us nothing" has been our customers' assurance.

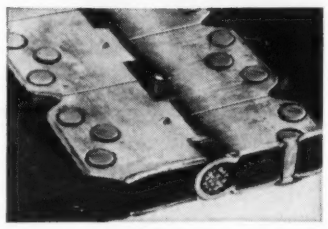
Phone Klaus today. Or if you prefer, write him.

WALLACE SUPPLIES MFG. COMPANY
3512 N. Ravenswood Ave. • Chicago 13, Ill.

PHONE BUckingham 1-7000 COLLECT as we said before

For more details circle NED-165 B1 on enclosed inquiry slip

CONVEYOR BELT SPLICE allows belt to trough as needed



Conveyor belts with interwoven carcass construction can be spliced quickly with this heavy-duty, reversible, hinge-type Minet splice which is installed in one piece. As conveyor operates, the hinge plate separates into sections at prescored notches to conform with trough curvature. Joint is tight and leakproof, yet flexible. Pointed rivets used in fastening do not cut and weaken the belt fabric. Splice thus retains 68 per cent of belt tensile limit. Heavy-duty, reusable cable hinge pin enables splice to go smoothly around small diameter pulleys. Splice is offered for 1/32 to 1-in. thick belts up to 72 in. wide. • **General Splice Corp.**, 32 Woodworth Ave., Yonkers, N. Y.

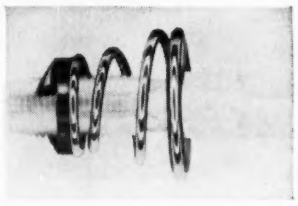
For more details circle NED-168 B1 on enclosed inquiry slip

THERMAL CONDUCTIVITY GAGE is gas analyzer and warning device

Direct reading thermal conductivity gage is suited for continuous or intermittent gas analysis and reads in two ranges from 0.35 to 1 and 1 to 7. It is offered with contact meter relay control units which alarm, protect, or control a system should gas mixture change beyond preset levels. Device is most useful in detecting the percentage of hydrogen in forming gas, or the changes in natural gas composition that require immediate adjustment of industrial furnace burners. Small thermal conductivity cell withstands strong vibration, shock, and overpressure to 3000 psig without damage. Price is about $265. • **Hastings-Raydist, Inc.**, Dept. 10, 1500 Newcomb Ave., Hampton, Va.

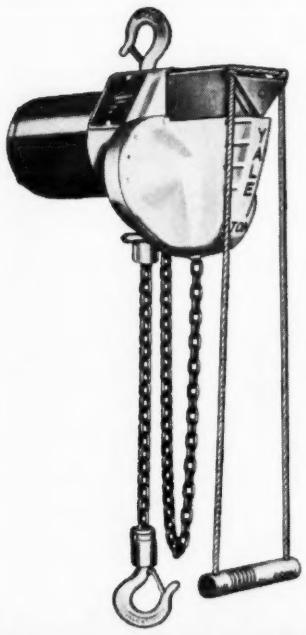
For more details circle NED-169 B1 on enclosed inquiry slip

DEBURRING TOOL fits all makes of pipe taps



Easily slipped on any make of pipe tap in a few seconds, the Burr-Bit deburring tool makes it possible to tap and debur pipe threads in a single operation. It fits pipe tap sizes from 1/8 to 1 in., removing the bur as the tap is withdrawn from the threaded hole. Single conical spring is furnished to permit deep tapping. Steel, cast iron, aluminum, brass, copper, plastics, and other materials can be deburred with the high speed steel tool, available for straight and tapered holes. Resharpening is possible. • **Vernon Devices Inc.**, 481 E. Third St., Mt. Vernon, N. Y.

For more details circle NED-170 B1 on enclosed inquiry slip



WORKS FOR LESS THAN 2¢ A DAY... YALE MIDGET KING ELECTRIC HOISTS

New Electric Chain link hoists work for less than two cents a day. Motor operates under full load without overheating. Oil bath lubrication prevents excessive wear. Capacities ⅛ to 2 tons.

Versatile Yale Midget King Hoists let operator pick up material not directly under hoist. Hoist-and-load protecting upper and lower safety limit stops, "plus two brakes," provide positive safety. Hook or trolley models available in chain link or roller chain hoists.

See Sweet's Catalog or Yellow Pages for nearest Yale representative. Yale Materials Handling Division, Dept. W-102, Phila. 15, Pa., a Division of The Yale & Towne Manufacturing Co.

YALE® INDUSTRIAL LIFT TRUCKS TRACTOR SHOVELS HOISTS

For more details circle NED-166 B1 on enclosed inquiry slip

FIRST COMPACT YALE GAS LIFT TRUCKS

• Gasoline or LP-Gas powered. 52 HP engine in solid-tire model; 72 HP engine in pneumatic-tire model. New improved automatic torque transmission. Capacities 3,000 to 5,000 lbs.

Get speed and safer operation in Yale's compact G 54 series gas trucks. Fast lifting . . . from 75 to 80 FPM with controlled lowering speeds from 55 to 80 FPM. Accurate control . . . greater safety with self-energizing brakes . . . single control handle for all hydraulic attachments are features of the new Yale Compact model.

Flexible Lease and Finance Plans available. See Sweet's Catalog or Yellow Pages for nearest Yale representative.

Yale Materials Handling Division, Dept. G-103, Philadelphia 15, Pa. a Division of The Yale & Towne Manufacturing Company.

YALE® INDUSTRIAL LIFT TRUCKS TRACTOR SHOVELS HOISTS

For more details circle NED-167 B1 on enclosed inquiry slip

EASY-LIFT HAND TRUCKS

Fast, easy multiple stroke lift. Wheels roll freely under platform. Automatic ratchet engaging latch operated with handle upright. Foot operation needed only for releasing load. Platform or Pallet Models. Capacities 2500 to 4000 lb.

Yale mechanical hand-lift trucks give fast, easy lift, easy roll, easy steer action. Sturdy construction provides for overload and long life. Multiple stroke lifting mechanism insures safe operation. Roller or tapered roller bearing, as desired.

Flexible Lease and Finance Plans available.

See Sweet's Catalog or Yellow Pages for nearest Yale representative.

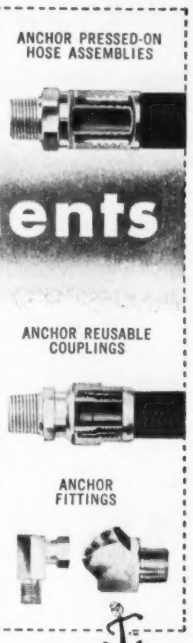
Yale Materials Handling Division, Dept S-101, Phila. 15, Pa., a Division of The Yale & Towne Manufacturing Company.

YALE® INDUSTRIAL LIFT TRUCKS TRACTOR SHOVELS HOISTS

For more details circle NED-171 B1 on enclosed inquiry slip

"FIRST" for YEARS IN OEM

Now "FIRST" IN Replacements



ANCHOR Pressed-On Hydraulic Hose Assemblies, Reusable Couplings, Hose and Fittings

Anchor *replacement* Pressed-On Hydraulic Hose Assemblies, Reusable Couplings, Hose and Fittings are *one and the same* as the already comprehensive Anchor line . . . first and foremost with original equipment manufacturers today . . . and for over 20 years.

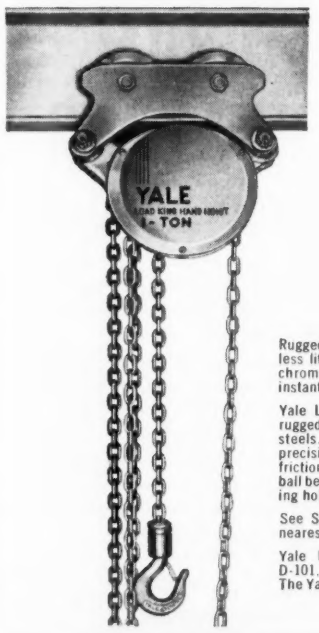
Ask for and install Anchor for *all* your *replacement* use.

Your nearest Anchor distributor will serve you quickly . . . whatever your needs for Anchor hydraulic component replacements.

ANCHOR Coupling Co. Inc.
Box 111, Dept. S, Libertyville, Ill.
Branch Plants: Dallas, Tex., Plymouth, Mich.

Andy Anchor says: "Ask your Anchor distributor for descriptive literature . . . or write direct."

For more details circle NED-172 B1 on enclosed inquiry slip



FAST LIFTING— YALE HAND HOISTS

Rugged construction. Smooth, fast, effortless lifting. Minimum friction losses. Synchromatic brake and release operate instantaneously. Capacities ½ to 12 tons.

Yale Load King hand hoists are built of rugged aluminum alloy casting and alloy steels. Up to 95% efficiency assured due to precision machined parts that minimize frictional loss. Rotating shaft operates on ball bearings. Automatic braking and releasing holds loads in safe suspension.

See Sweet's Catalog or Yellow Pages for nearest Yale representative.

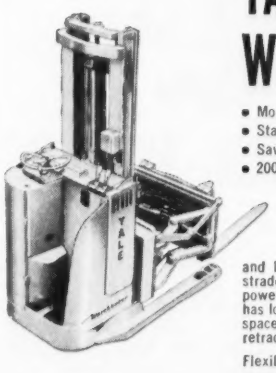
Yale Materials Handling Division, Dept. D-101, Philadelphia 15, Pa., a Division of The Yale & Towne Manufacturing Company.

YALE® INDUSTRIAL LIFT TRUCKS TRACTOR SHOVELS HOISTS

For more details circle NED-173 B1 on enclosed inquiry slip

save space you can't afford to waste—

YALE WAREHOUSERS



- More pallet rows in same space.
- Stack to 20 feet or more.
- Save maintenance and power costs.
- 2000, 3000, 4000 lb. capacity.

Get greater power in spaces as narrow as 6 ft. aisles with 24 volt Yale Warehouser. Faster lift and sustained high-speed travel. Yale Extend-A-Load model handles various widths and lengths of pallets and skid bins without straddling the load. Exclusive self-contained power unit for extension. Extend-retract device has low 30" overall height—saves high stacking space. Forks tilt back to 6 degrees and extend, retract or tilt to any height.

Flexible Lease and Finance Plans available.

See Sweet's Catalog or Yellow Pages for nearest Yale representative.

Yale Materials Handling Division, Dept. R-102, Phila. 15, Pa., a Division of The Yale & Towne Manufacturing Company.

YALE® INDUSTRIAL LIFT TRUCKS TRACTOR SHOVELS HOISTS

For more details circle NED-174 B1 on enclosed inquiry slip

Here's
SUPER-POWER
for
Better Lawn Care
and
Every-Season
Use

New
Spinaway
Heavy Duty
42" RIDING MOWER

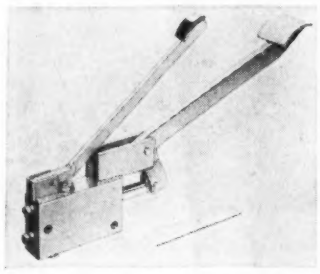
Check its *new* features: free-floating cutting unit avoids scalping . . . can't tip . . . quick, measured height adjustment . . . High Suction for smooth cutting . . . Mower operates independent of travel . . . Automotive type transmission and steering . . . Powerful 9.2 H. P. . . . 3 speeds forward, and reverse. Electric starter optional. "Pat Pend." **Phone or write for prices**

"The Mower with the Most Tomorrows"

HAL-GAN PRODUCTS, Inc. Dept. NED, 13000 W. Blue Mound Road Elm Grove, Wisconsin

For more details circle **NED-175 B1** on enclosed inquiry slip

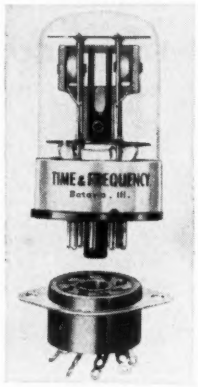
HYDRAULIC FOOT PUMP
develops pressures to 10,000 psi



Compact, foot-operated pump is available in ratings to provide working pressures from 100 to 10,000 psi. It supplies foot-controlled hydraulic power for vises, cylinders, lift tables, clamps, and other equipment. Release pressure valve or any other control means is optional. • **Lange Lift Co.**, 4225 N. 124th St., Milwaukee 22, Wis.

For more details circle **NED-178 B1** on enclosed inquiry slip

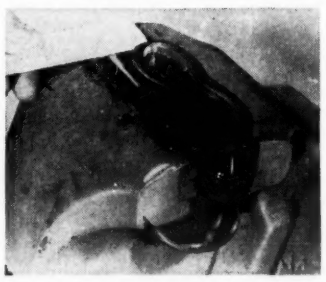
VACUUM TUNING FORK
provides accurate frequency source



Type TF-4 high vacuum tuning fork with its silicon transistor oscillator will operate on any frequency from 240 to 10,000 cps. As a frequency source for precise electronic instruments, it has an accuracy of 50 parts per million or better from −56 to 125° C. Output signal is either a sine or square wave of 1.3 to 3 v rms across a 10,000-ohm load, from a supply of 6 to 36 v dc with a current drain of less than 10 ma. Device is unaffected by gamma rays or fast neutrons. It has a 1½-in. diameter, is 2½ in. high, and comes with an octal socket containing the required circuit. • **Time & Frequency, Inc.**, 127 S. Batavia Ave., Batavia, Ill.

For more details circle **NED-179 B1** on enclosed inquiry slip

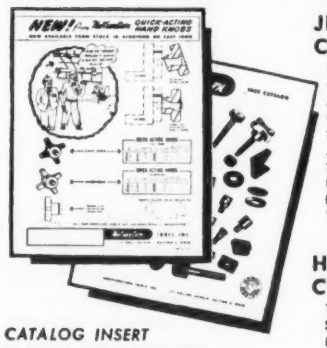
AIR LINE FILTER BOWLS
will not break or shatter



Transparent air line filter and lubricator bowls will not break or shatter and afford high resistance to solvents, oils, or corrosive gases. Bowls will operate at 250 psi at temperatures up to 200° F, or 200 psi at 250° F. Bowl shown in a squeeze test was squeezed almost flat in a vise, then put under pressure again. Test left no evidence of cracking or breaking. Impact, bullet piercing, and maximum internal pressure tests also failed to shatter the bowl. • **C. A. Norgren Co.**, 3400 S. Elati St., Englewood, Colo.

For more details circle **NED-180 B1** on enclosed inquiry slip

QUICK-ACTING HAND KNOBS



JIG AND FIXTURE COMPONENTS
- LATCH BOLTS
- CAST IRON HAND KNOBS
- ALUMINUM HAND KNOBS
- QUARTER TURN SCREWS
- SHOULDER SCREWS
- JIG FEET (3 TYPES)
- SPHERICAL WASHERS
- FIXTURE KEYS
- KNURLED HEAD SCREWS
- TOGGLE SHOE CLAMPS & V-PADS

HOLD DOWN AND CLAMPING TOOLS
- T-NUT & STUD SETS
- STEP BLOCK & CLAMP SETS
- FLANGED NUTS
- CUT THREAD STUDS
- TEE NUTS
- COUPLING NUTS
- ADJUSTABLE STEP BLOCKS
- STRAP CLAMPS (PLAIN & STEP TYPE)

CATALOG INSERT
NEW 16 PAGE CATALOG
CATALOG INCLUDES TRACING TEMPLATES

FREE! WRITE TODAY

NORTH WESTERN **Northwestern** NORTH WESTERN
127 HOLLIER AVE., DAYTON 3, OHIO

For more details circle **NED-182 B1** on enclosed inquiry slip

NEW, FLEXIBLE
DRUM HEATERS
for 55 gal. drums
$30.00 per heating unit

Illustration shows three units for fast warm-up.

- Rated 1000 watts at 115 volts
- Fully vulcanized silicone rubber and fiberglas metal screen laminate.
- 6 ft. cord set with grounding cap
- Surface protected by grounded metal screen
- Tested at 1250 volts dielectric strength

Flexible units are 3" wide, fit any steel drum from 21½" to 23½" dia., attach easily with simple spring clip.

The efficient way to heat viscous materials and maintain temperatures and consistencies for easy removal.

For users of—

PLASTICS	FATS
PAINTS	ADHESIVES
MOLASSES	MASTICS
OILS	RESINS
GREASES	SYRUPS
FOOD PRODUCTS	

Units also available in; 5 gal., ($17.50), 15 gal., ($26.00), and 30 gal., ($28.00)

send for free bulletin

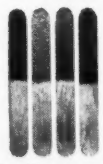
Electro-Flex Heat, INC.
83 WOODBINE ST., HARTFORD, CONN. (CHapel 6-5413)

For more details circle **NED-176 B1** on enclosed inquiry slip

slip-proof plant trouble spots with M-S-A® DURA-GRIP

New anti-slip surfacing compound contains resin bonding agent impregnated with aluminum oxide grit.

- Will not flake, peel, chip or crack.
- Can be applied like paint.
- Forms uniform, slip-proof surface.
- Simple sluicing keeps it clean.
- Adheres to wood, concrete, metal, marble.
- Slip-proofs floors, stairs, ramps, showers, catwalks.
- Resists alkalies, greases, oils, solvents.
- Available in colors: red, yellow, black, gray.



Free Samples: Conduct your own torture test. Coat plain end of Dura-Grip sample with any other surfacing compound you're now using or considering. See which one takes most abuse, lasts longest. For helpful new booklet, write:

MINE SAFETY APPLIANCES CO. MSA
Pittsburgh 8, Pennsylvania

For more details circle **NED-183 B1** on enclosed inquiry slip

AIR-POWERED

DRILL HEAD

Write for Bulletin BL-22 Address: Dept. NED 261 Bellows-Valvair Akron 9, Ohio

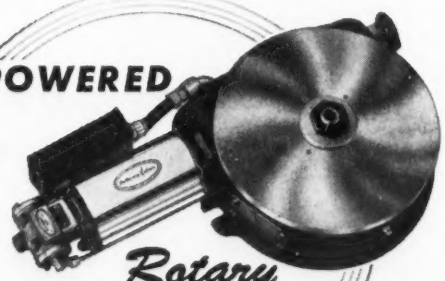
Not much bigger than a carton of cigarettes, this Bellows-Locke Drill Head is the low cost answer to many machining operations in the softer metals, plastics and wood. Drill capacity from No. 80 to 3/16" drill, 2" stroke. Pulley drive. Also available with hydraulic feed control and built-in valve.

992C

Bellows-Valvair
AKRON 9, OHIO
DIVISION OF INTERNATIONAL BASIC ECONOMY CORPORATION (IBEC)

For more details circle **NED-177 B1** on enclosed inquiry slip

AIR-POWERED



Rotary WORK FEEDER

Write for Bulletin RT-1022 Address: Dept. NED 261 Bellows-Valvair Akron 9, Ohio

Dial feed work pieces. Cut cost in half. Bellows Rotary Feed Tables are air-powered, electrically controlled for easy interlock with drill press spindles or press rams. All valves and controls are built-in. Ten inch diameter table top can be machined for mounting jigs and fixtures. Adjustable for 4, 6, 8, 12 or 24 feeding stations.

993-C

Bellows-Valvair
AKRON 9, OHIO
DIVISION OF INTERNATIONAL BASIC ECONOMY CORPORATION (IBEC)

For more details circle **NED-181 B1** on enclosed inquiry slip

AIR-POWERED

DRILL PRESS FEED

Write for Bulletin DF-110R Address: Dept. NED 261 Bellows-Valvair Akron 9, Ohio

Attaches to the star wheel shaft of any drill press. A touch on the handle sends the drill rapidly to the work, hydraulically feeds through the work, automatically returns to start position. Air-powered, electrically controlled. Feed adjustable to meet needs of any tool working in any material.

994-C

Bellows-Valvair
AKRON 9, OHIO
DIVISION OF INTERNATIONAL BASIC ECONOMY CORPORATION (IBEC)

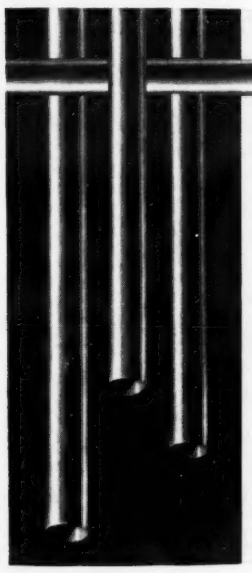
For more details circle **NED-184 B1** on enclosed inquiry slip

NEED BRASS TUBE?

WRITE

WOLVERINE TUBE
DIVISION OF
Calumet & Hecla, Inc.
DEPT. J, 17270 SOUTHFIELD RD., ALLEN PARK, MICH.
Manufacturers of Quality Controlled Tubing

For more details circle NED-185 B1 on enclosed inquiry slip



For "Quality Controlled" CONTROL TUBE

WRITE

WOLVERINE TUBE
DIVISION OF
Calumet & Hecla, Inc.
DEPT. J, 17270 SOUTHFIELD RD., ALLEN PARK, MICH.
Manufacturers of Quality Controlled Tubing

J-9302

For more details circle NED-186 B1 on enclosed inquiry slip

FOR TUBING INFORMATION
Write for Wolverine Literature

- ☐ THE MEASURE OF TUBEMANSHIP
- ☐ WOLVERINE SERVES THE REFRIGERATION INDUSTRY
- ☐ STATEMENT OF SCOPE
- ☐ TOMORROW'S METALS TODAY
- ☐ CAPILATOR® BROCHURE
- ☐ COMMERCIAL TUBE CATALOG
- ☐ WOLVERINE ALUMINUM CATALOG
- ☐ MEN OF WOLVERINE

Write on your letterhead for literature listed.

WOLVERINE TUBE
DIVISION OF
Calumet & Hecla, Inc.
DEPT. J, 17270 SOUTHFIELD RD., ALLEN PARK, MICH.
Manufacturers of Quality Controlled Tubing

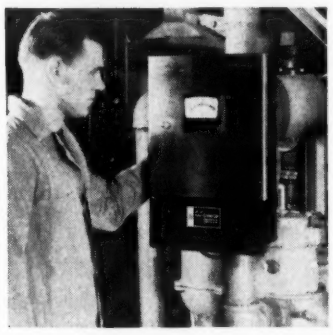
For more details circle NED-187 B1 on enclosed inquiry slip

OFFICE PAPER SHREDDER
for confidential, obsolete records

Convenient and effective means of destroying confidential and obsolete business records is provided by the typewriter-size Electro-Shred paper shredder. Papers to be disposed of are fed into the machine and within seconds drop into a waste basket, shredded beyond recognition. Operation is safe and quiet. • **Electro-Shred Corp.**, U. S. 42 at West Street, Lebanon, Ohio.

For more details circle NED-188 B1 on enclosed inquiry slip

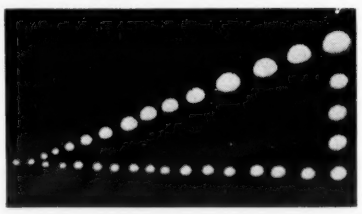
COMBUSTION INDICATOR
signals changes in flame



This Qual-O-Rimeter combustion indicator accurately indicates changes in flame characteristics caused by variations in gas fuel supply and air/gas mixtures. Sensitive to any variation, it shows changes as little as 5 Btu in fuel gas and $\pm\frac{1}{2}$ per cent of air in mixture in 5 sec. By presampling air/gas mixtures, the instrument permits proper adjustment of ratio before production is adversely affected. Changes in air/gas ratio, Btu content, flame geometry, and combustibles atmospheres can be compensated for with the aid of the device. • **Selas Corp. of America**, Dresher, Pa.

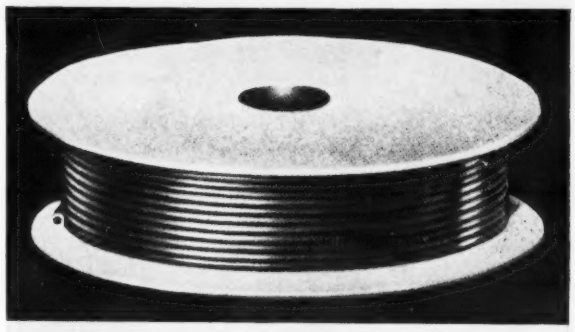
For more details circle NED-189 B1 on enclosed inquiry slip

TEFLON BALLS
made to within 0.001 in. tolerance



Diameter and sphericity tolerances are maintained within 0.001 in. in these high-strength Teflon balls for critical antifriction applications. Balls are chemically inert, need no lubrication, and resist temperature extremes. Capable of withstanding high compressive forces without permanent distortion, balls have successfully been used as bearings, detents, spacers, and pivots in mechanical systems. They withstand temperatures from cryogenic to over 500° F. • **Tri-Point Plastics, Inc.**, 175 I.U. Willets Rd., Albertson, L. I., N. Y.

For more details circle NED-190 B1 on enclosed inquiry slip



PACKAGED FOR PRODUCTION LINE REQUIREMENTS

• *Wolverine Copper Tube in Long Length Level Wound Coils on a Reel*

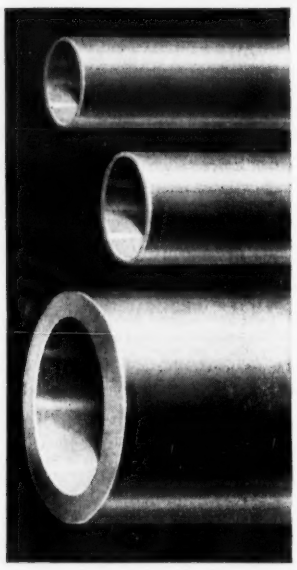
WRITE

WOLVERINE TUBE
DIVISION OF
Calumet & Hecla, Inc.
DEPT. J, 17270 SOUTHFIELD RD., ALLEN PARK, MICH.
Manufacturers of Quality Controlled Tubing

J-9302

For more details circle NED-191 B1 on enclosed inquiry slip

Looking for Commercial Copper and Copper Alloy Tube?



WRITE

WOLVERINE TUBE
DIVISION OF
Calumet & Hecla, Inc.
DEPT. J, 17270 SOUTHFIELD RD., ALLEN PARK, MICH.
Manufacturers of Quality Controlled Tubing

J-9302

For more details circle NED-192 B1 on enclosed inquiry slip

WIN A PRIZE!... What's your application?

Before this advertisement went to press, we gave the editors of New Equipment Digest a sealed envelope which contained the details of a typical Wolverine Tube order. It lists the *copper or copper alloy, the O.D., the wall thickness* and probable year's requirements. And, in addition, it outlines a typical application for this type of tube.

Use this coupon. Just fill in the details of your copper tube outside diameter, wall thickness, alloy and application. The person whose entry comes closest to the specific copper or copper alloy, outside diameter and the wall thickness we have filed with NED editors will receive a package of a dozen top flight steaks from Chicago's famed Stockyard Inn. In the event of a tie, a drawing will be made.

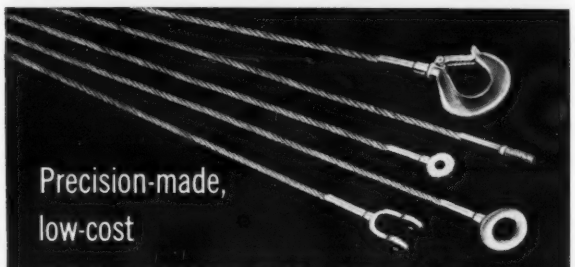
NAME_____ TITLE_____
COMPANY_____
ADDRESS_____ CITY_____ ZONE_____ STATE_____
My application is_____
The outside diameter is_____
The wall thickness is_____ The alloy is_____
We usually require_____ of copper and copper alloy tube annually.

CONTEST CLOSES MIDNIGHT, MARCH 15, 1961.

MAIL TO

WOLVERINE TUBE
DIVISION OF
Calumet & Hecla, Inc.
DEPT. J, 17270 SOUTHFIELD RD., ALLEN PARK, MICH.
Manufacturers of Quality Controlled Tubing

J-9302



Precision-made, low-cost

MACWHYTE CABLE ASSEMBLIES

"Safe-Lock" wire rope assemblies are made in a wide range of sizes for machine parts, controls, and operating devices. They are fabricated to the exact size and length you need, with fittings on one end or both ends—ready to use for safe, easy, quick, low-cost installation. Ask for catalog 5601. Macwhyte Wire Rope Company, Kenosha, Wis., U.S.A.

187

MACWHYTE Wire Rope COMPANY

For more details circle NED-195 B1 on enclosed inquiry slip

No Finer Equipment for

MEASURING FLATNESS

EASIER...MORE ACCURATELY

LAPMASTER OPTICAL FLATS

Available in certified optical accuracies of .000002" or .000001" ...in either clear fused quartz or Pyrex glass . . . either double or single surfaced . . . in a full range of standard sizes from 1" through 12" dia.

THE LAPMASTER MONOCHROMATIC LIGHT

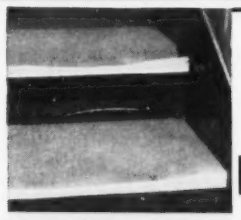
Powerful helium lamp (40 candlepower) for sharp reading . . . light head adjustable for best reading angle; or swing completely around for tall parts . . . portable in self-contained case.

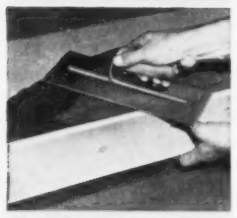
Write for complete details and measurement chart.

Lapmaster DIVISION

CRANE PACKING COMPANY
6411 OAKTON STREET
MORTON GROVE, ILL. (*Chicago Suburb*)
In Canada:
Crane Packing Co., Ltd., Hamilton, Ont.

For more details circle NED-196 B1 on enclosed inquiry slip





New Aluminum Tread

RESTORES WORN DANGEROUS STAIRS

Simple method makes worn stairs like new again without replacement and traffic inconvenience. Anyone can trowel plastic mix over surface and superimpose ALUMINUM STAIRMASTER SAFETY TREADS. Safety-ribs of diamond-hard abrasive grit provide positive anti-slip protection even under wet or oily conditions. Takes heavy traffic, minimizes accidents for a lifetime of safety and service.

Send For FREE "STAIRWAY REPAIR AND MODERNIZATION MANUAL"

WOOSTER PRODUCTS INC. Spruce St. WOOSTER, OHIO Dept. 16

Name_____

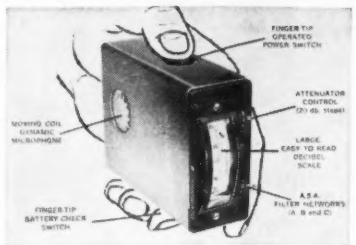
Company_____

Address_____

City_____ State_____

For more details circle NED-197 B1 on enclosed inquiry slip

SOUND SURVEY METER
40-125 db unit has vibration pickup



Miniature, transistorized, 1-lb Type B sound survey meter will measure noise levels in factories, offices, and in field surveys to locate harmful noise sources. It indicates sound pressures from 40 to 125 db, and with its matched vibration pickup, responds within the 45 to 8000 cps spectrum. Operated with one hand, meter has click-action, finger-tip controls and is powered by a mercury battery good for 10,000 measurements. Vibration pickup enables it to measure structure-borne noise in a location where ambient noise would not permit accurate airborne sound measurement. Meter measures 5 x 3¼ x 1½ in. and comes in leather carrying case. • **Korfund Co.**, 35P Cantiague Rd., Westbury, L. I., N. Y.

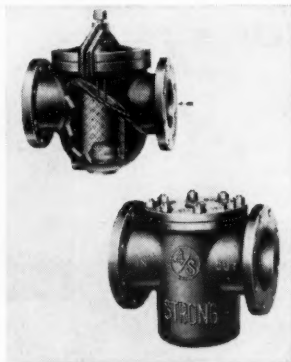
For more details circle NED-198 B1 on enclosed inquiry slip

ADHESIVE LABELS
of plastic-supported Mylar film

Mical plastic-supported Mylar film material with pressure-sensitive adhesive backing is applicable for nameplates and instructional and warning labels. It is available in "pick-off" pieces, sheets, or in rolls. Mylar top film resists extremes of temperature and moisture. Plastic adhesive base conforms well to surface contours and has good initial adhesion. Individual pieces are printed by silk screen process, whereas roll forms are printed flexographically. • **Topflight Corp.**, Mical Div., York, Pa.

For more details circle NED-199 B1 on enclosed inquiry slip

BASKET STRAINERS
for 2 to 16-in. fluid pipelines



Usable on steam, air, oil, gas, and chemical lines, four low-cost basket strainers remove dirt and foreign matter to protect pumps, valves, regulators, and other equipment. They are made in semi-steel and cast steel and have clamped or bolted covers, the latter for service at pressures to 600 psi and temperatures to 800° F. Sizes range from 2 to 16 in. with flanging rated 125 to 300 lb. Brass or stainless steel baskets have 3/32-in. perforations. • **White Sewing Machine Co.**, Strong Div., 509 Sandusky St., Conneaut, Ohio.

For more details circle NED-200 B1 on enclosed inquiry slip

Modern industry uses KROIL

...when some stuck together part threatens production. They won't take a chance on breaking the part with brute strength.

KROIL LOOSENS FROZEN PARTS

As one customer said, **"Kroil loosens everything from an embalmer's needle to a bulldozer."**

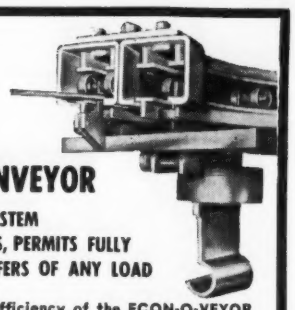
Another wrote, **"Before trying Kroil on heat treat trolleys, we broke off every nut . . . since then we have not lost one."**

You, too, can get these results. Try Kroil on our make-good guarantee. Accept our combination offer, a gallon of Kroil, $4.35, and a Kroiler (squirt gun worth $1.50) for $5.25, F.O.B. Nashville. Order direct.

KANO LABORATORIES
1074 THOMPSON LANE • NASHVILLE, TENNESSEE

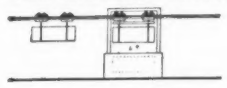
For more details circle NED-201 B1 on enclosed inquiry slip

THIS IS THE REMARKABLE ECON-O-VEYOR 'POWER-&-FREE' CONVEYOR

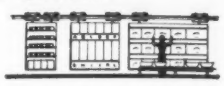


THE TWO-TRACK CONVEYOR SYSTEM THAT SLASHES HANDLING COSTS, PERMITS FULLY AUTOMATIC STORAGE & TRANSFERS OF ANY LOAD

The well-known durability and efficiency of the ECON-O-VEYOR overhead conveyor—used in industry as a powered overhead for many years—is now available as a highly-flexible two-track "Power-&-Free" system. As shown in the illustration below, the system will carry materials or assemblies from operation to operation, automatically store loads on side tracks till needed, transfer to other conveyors for different speeds of travel. Rugged ECON-O-VEYOR construction assures continuous trouble-free operation . . . little wonder that most ECON-O-VEYOR installations pay for themselves in *months!* It's the most economical way to handle any load—perfect as the basic element for automated operations!



Intermittently operated "Power-&-Free" with vertically movable section for dipping materials into treating baths.



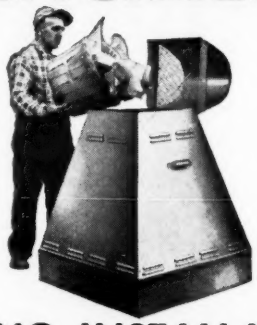
"Power-&-Free" used to move racks and bins of merchandise to order filler.

For Brochure, Write:

ECON-O-VEYOR
Division of
HAPMAN CORPORATION
630 GIBSON STREET, KALAMAZOO, MICHIGAN

For more details circle NED-202 B1 on enclosed inquiry slip

LOW COST INCINERATOR



BURNS TRASH SAFELY OUTDOORS

Only $110.00 COMPLETE

NO INSTALLATION COST

Burn wrappings, sweepings, papers, cartons, packing, rags, food waste, safely outdoors. Scientific draft control ends fire hazards of flying ash, sparks, burning blowing papers. Burns damp, green, or dry refuse to fine ash in any weather. Minimizes smoke and smell, needs no watching. Safe for use 10' from buildings. Stands 52" high x 35" square at base. 10 bushel burning capacity. Complete with hinged hood, ash pan base and grate and cleanout door. Made of aluminized steel (molten aluminum bonded to steel) with replaceable inner steel panel construction for long life. Shipped assembled—weight 170 lbs. Only $110.00 F.O.B. Cleveland. Satisfaction guaranteed. Other sizes available.

Write for **FREE** *Folder*

ALSTO COMPANY
Dept. 14 4007 Detroit Ave. Cleveland 13, Ohio

For more details circle NED-203 B1 on enclosed inquiry slip

GET YOUR HYDRAULIC CYLINDER FACTS NOW

■ Hannifin simplifies hydraulic cylinder selection by tailoring your cylinder to your circuit.

For 2,000 psi systems (3,000 psi non-shock) we offer our famous heavy-duty Series "H" cylinders. For circuits operated off 1,000 psi pumps, there's the new Series "L", the "thousand-pound" line, and the "universal" Series "U". Get our complete dimensional data and prices on all three lines of Hannifin hydraulic cylinders. New price sheets make it easy to figure your costs and tell you when you can expect shipment.

Write today for your free copies of this practical reference material. There is no obligation.

PARKER HANNIFIN CORPORATION

HANNIFIN COMPANY
A DIVISION
527 South Wolf Road • Des Plaines, Illinois
PNEUMATIC AND HYDRAULIC SYSTEM COMPONENTS

3191-PH

For more details circle NED-204 B1 on enclosed inquiry slip

so simple
. . . so safe
. . . so convenient

Just plug in and flip the handle ON, and the Heinemann Safelet goes on duty in your machine shop, factory, or laboratory . . . wherever you want complete protection of an individual circuit or piece of equipment.

This handy combination of circuit breaker and protected outlet is foolproof. The Heinemann circuit breaker can't be held closed against a short or overload. And like a light switch, it's a cinch to operate. Comes in 6, 10, 15, 20, 25, 30, 35, 40, and 50 amp ratings with a variety of single or duplex receptacles: twist-lock, polarized, T-slot and standard. Flush or surface mounting enclosures . . . pilot light models available if desired.

More information? Write for Bulletin 1000.

HEINEMANN ELECTRIC COMPANY
B.A. 1701 **106 Plum Street, Trenton 2, New Jersey**

For more details circle **NED-205 B1** on enclosed inquiry slip

Introducing **THE MODEL D**
NEW *Wilder* DUPLEX PROJECTOR

As a double feature it is both:

A small parts Comparator with screen observation and a Toolmaker Microscope for microscopic observation

***With* 4 interchangeable magnifications**
- **transmitted light for shadow images**
- **surface illumination for reflected images.**

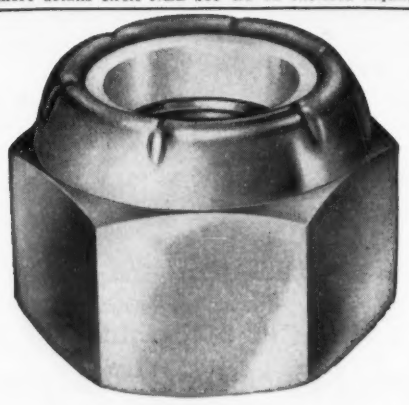
***Plus* High-Precision Optics**
- **sliding screen for xeroing and basic measurements.**

Coordinate Measuring Stages available optionally

Request folder 84-100

OPTO-METRIC TOOLS, INC.
137N VARICK STREET • NEW YORK 13, N.Y.

For more details circle **NED-206 B1** on enclosed inquiry slip



What size is a quality fastener?

Here are two ELASTIC STOP® nuts. Each has the familiar red locking collar.* Each is self-locking, vibration proof and reusable. Both stop nuts will maintain an accurate adjustment anywhere on a bolt . . . each prevents liquid seepage along bolt threads and protects against thread corrosion. Finally, each has an unmatched record for quality, both in manufacture and performance.

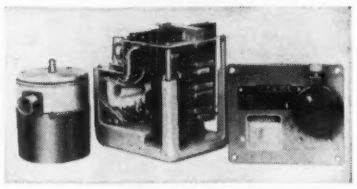
But . . . one measures 1/10" across the flats; the other, 4". Between these two there are more than 530 different hex nuts in the ESNA line. Look to ESNA for a *standard* self-locking fastener to fit your *special* needs. Write Dept. S2-237.

**The red locking collar is a Registered Trade Mark of ESNA*

ELASTIC STOP NUT CORPORATION OF AMERICA
2330 Vauxhall Road, Union, New Jersey

For more details circle **NED-207 B1** on enclosed inquiry slip

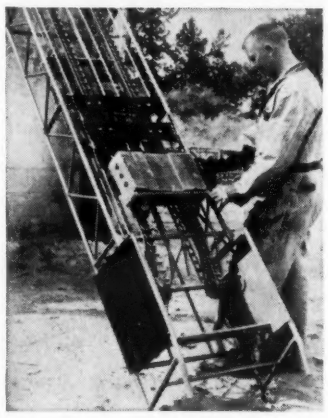
POSITION CONTROL
sets to 0.001 in. over 30-in. travel



The position sensor shown at left, a solid state printed circuit amplifier, and the digital readout position setter shown at the right comprise the HA-50 position control. Amplifier can power a standard Shaftrol rotary actuator, a Lineatrol linear actuator, or other electric or hydraulic drives. In a typical machine tool application, settings to 0.001 in. are provided over a 30-in. travel. Systems with higher or lower accuracies are used to position valves, control variable speed drives, or control processing and programming. • **Jordan Controls, Inc.**, 3235 W. Hampton Ave., Milwaukee 9, Wis.

For more details circle **NED-208 B1** on enclosed inquiry slip

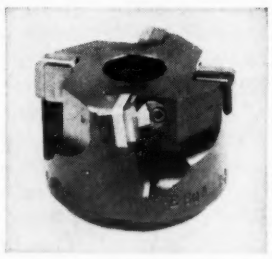
PORTABLE ELEVATOR
13 and 21-ft models can be extended



Light, simple construction makes it easy to set up the E-Z-Vator portable industrial elevator or to transport it to another location. The tubular unit is made in 13 and 21-ft models weighing 160 and 230 lb, respectively. Five and 7½-ft sections can be added for extra length. Its 23-in. width accommodates such materials as building blocks, rolled or sacked materials, wire, slabs and sheets, and, when equipped with buckets, loose bulk material. • **Hauck Mfg. Co.**, 124-136 Tenth St., Brooklyn 15, N. Y.

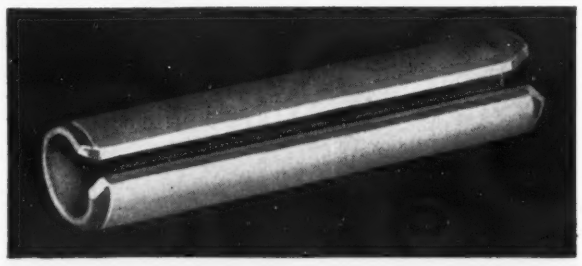
For more details circle **NED-209 B1** on enclosed inquiry slip

SHELL END MILLS
2½ to 4-in. throwaway insert type



Throwaway indexable carbide inserts are used in five shell end mills which range in diameter from 2½ to 4 in. and are used for light-duty milling machines. Cutters are adapted for square and triangular, positive and negative rakes. A positive rake insert for 90-degree cuts is also available. Mills fit standard 1, 1¼, and 1½-in. adapters, have hardened steel anvils, carbide chip deflectors, and K-locks which prevent inserts from being thrown from the cutter. • **Greenleaf Corp.**, 512 Franklin Ave., Pittsburgh 21, Pa.

For more details circle **NED-210 B1** on enclosed inquiry slip



Versatile Rollpin®
simplifies design, speeds production

ROLLPIN can be used in place of taper pins, solid straight pins, set screws, hinge pins, dowels, clevis pins . . . and in some cases as a rivet.

ROLLPIN is a slotted, cylindrical spring pin deliberately oversized in relation to standard production drilled holes . . . compressive forces lock it in place. Reaming or secondary safety operations such as peening are eliminated.

ROLLPIN is easy to install, easy to drive out with a drift pin or punch, yet will "stay put" indefinitely.

ROLLPIN is available for immediate off-the-shelf delivery—comes in sizes from .062" diameter to .500" in carbon steel, corrosion resistant steel or beryllium copper.

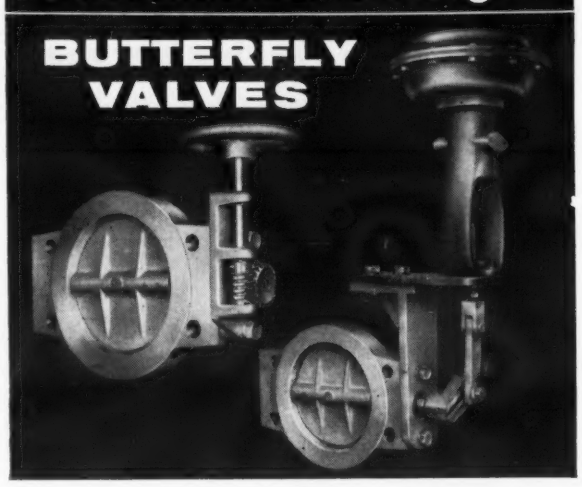
For a free bulletin detailing Rollpin applications and installation methods, write to Dept. R54-237.

ROLLPIN®

ELASTIC STOP NUT CORPORATION OF AMERICA
2330 Vauxhall Road, Union, New Jersey

For more details circle **NED-211 B1** on enclosed inquiry slip

Advanced Design
BUTTERFLY VALVES



NOW . . . an extensive line of Butterfly Valve types and sizes with many features.

- Variety of actuators
- Soft and angle seating
- Variety of body linings
- Adjustable for 60° or 90° operation
- Wide range of sizes in steel or iron

Whatever your needs, specify Masoneilan Butterfly Valves. Call or write for catalog.

MASON-NEILAN
Division of Worthington Corporation
MND-30 **69 Nahatan Street, Norwood, Mass.**

For more details circle **NED-212 B1** on enclosed inquiry slip

New $300 precision cut-off saw paid for itself in 15 minutes

Navkut*, the new precision cut-off saw, cut production costs of "spacers" substantially at Unicorn Engineering Inc. (now owned by Computer Measurements Co., Sylmar, Calif.). The cost of spacers was reduced from $8 to 80c each by Navkut's simple cut-off operation. During every 15-minute production run, the Navkut saw paid for itself. Such results aren't unusual with Navkut, the saw that can cut parallel tolerances to within .002" in ferrous, non-ferrous, wood, and plastic materials with only two types of blades. Usually the cut finish and accuracy will be so precise there is no need for milling or grinding. All this, yet the Navkut saw costs only $300. See for yourself how it can save you money. Write today for a free 15-minute demonstration in your shop.

*TRADEMARK

Navkut saw is another product marketed by:

NAVAN — INVENTION MARKETING NATIONAL SALES

NAVAN PRODUCTS INC.
Subsidiary of
North American Aviation, Inc.
900/J North Sepulveda
El Segundo, California

For more details circle **NED-213 B1** on enclosed inquiry slip

What shape is a quality fastener?

Here is a handful of ELASTIC STOP® nuts. Each has ESNA's familiar red locking collar*. . . is vibration-proof and made of the finest materials. Each is exactly controlled as to finished dimensions, class of thread fit and finish . . . with an unmatched record for uniformly high quality. **Most of them are standard parts . . .** some originated as a result of a specific request for ESNA's assistance. So . . . for help on *your* next fastening problem, send us the details of your application. Write Dept. S1-237.

**The red locking collar is a Registered Trade Mark of ESNA.*

ELASTIC STOP NUT CORPORATION OF AMERICA
2330 Vauxhall Road, Union, New Jersey

For more details circle **NED-214 B1** on enclosed inquiry slip

NOW A LOW COST Portable Drum ROTATOR

Safe... Fast... Economical

MORSE MODEL 200

• MIXING • BLENDING
• TUMBLING • CLEANSING

Handles 30 and 55 gal. drums; 1 and 5 gal. containers with special attachment; weight capacities to 500 lbs. Weighs only 135 lbs. Available with 10, 20, or 40 rpm. Exclusive features assure smooth, thorough operation. Neoprene drive wheels are oil and chemical resistant. Retractable casters facilitate loading. Also available with explosion-proof or air-driven motors. Clip this ad to your letterhead for free MORSE Catalog.

Clip this ad to your letterhead for free MORSE Catalog.

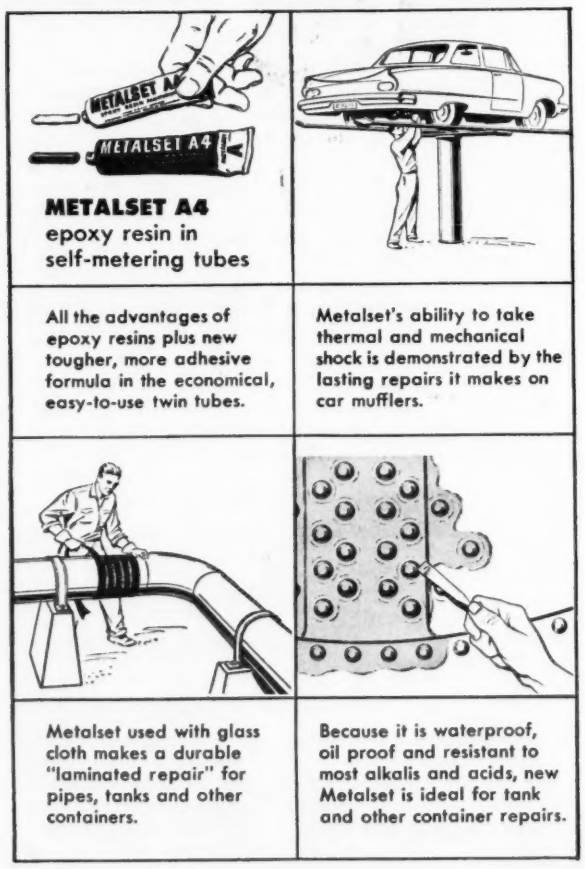
MORSE DRUM & BARREL HANDLING EQUIPMENT E. SYRACUSE, N.Y.

MORSE MANUFACTURING CO., INC.
756 West Manlius Street, East Syracuse, N. Y.

For more details circle NED-216 B1 on enclosed inquiry slip

HOW TO MAKE THESE

REPAIRS



METALSET A4 epoxy resin in self-metering tubes

All the advantages of epoxy resins plus new tougher, more adhesive formula in the economical, easy-to-use twin tubes.

Metalset's ability to take thermal and mechanical shock is demonstrated by the lasting repairs it makes on car mufflers.

Metalset used with glass cloth makes a durable "laminated repair" for pipes, tanks and other containers.

Because it is waterproof, oil proof and resistant to most alkalis and acids, new Metalset is ideal for tank and other container repairs.

Here's the easy way to use epoxy resin industrial repair cement. Squeeze equal lengths of material from each tube, mix, and you're ready to apply Metalset A4. Use only what you need. Save the rest for the next job.

Metalset A4, formulated for the industrial maintenance engineer, contains no solvent to cause shrinking. It can be used in any thickness, is water and oil proof, chemically stable and has great adhesion. Metalset's improved formula has increased flexibility to withstand thermal and mechanical shock.

Order from your industrial distributor; if he does not yet stock Metalset, order direct from us. Six ounce tube set is $1.98, eleven ounce set is $2.98. Also available in cans. Descriptive bulletin is available on request.

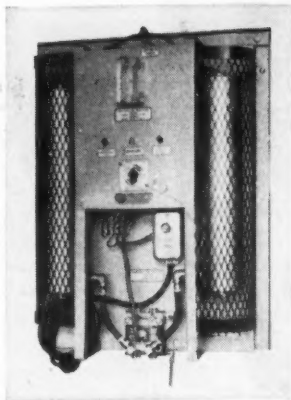
SO 440

METALSET®

Made by Smooth-On Manufacturing Company
ESTABLISHED IN 1895
572 Communipaw Avenue, Jersey City 4, N. J.

For more details circle NED-217 B1 on enclosed inquiry slip

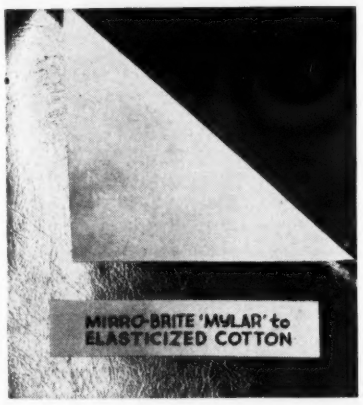
COMPRESSED AIR DRYER for instruments, pneumatic controls



Moisture is removed from compressed air used in instruments, pneumatic controls, tools, and other equipment by this air dryer. It consists of control valve, two desiccant towers, cycle timer, check valves, and purge meter. The visual Tel-Tale indicating silica gel changes color when air humidity increases beyond safe levels. Other safety devices include pilot lights, guard lights, and low amperage fuses. This automatic wall-mounting unit controls air flow through one drying tower while the other is being recharged. Capacities range from 0.5 to 10 cfm. • **S & G Mfg. Corp.**, Box 1309, New Orleans 10, La.

For more details circle NED-218 B1 on enclosed inquiry slip

PLASTIC-FABRIC LAMINATIONS made in various patterns and colors and can be sewn, stitched, or glued



Mirro Brite metallized plastic - fabric laminations are offered in four new types. A high nap, fleecy flannel fabric is bonded to a 0.0005 - in. Mirro Brite Mylar plastic to produce a bright combination similar to a supple leather. It can be glued, sewn, stitched, or wrapped around a base. Standard gold and chrome, plus other metallic colors with leather grains and other pattern embossings, are available. Mirro Brite Mylar bonded to vinyl coated cotton sheeting woven on a bias for high tensile strength is made in 36-in. widths in all standard metallic colors with flat or embossed surfaces.

Third type has Mylar laminated to general purpose vinyl coated cotton sheeting. This economy grade may be sewn, stitched, glued, and processed in other ways. Weight is 17 oz per linear yard. Fourth Mirro Brite type is Mylar laminated to vinyl coated elasticized cotton backing. This high tensile strength type uses 0.0005-in. Mylar and is available in 54-in. widths in standard metallic colors and various embossed patterns. • **Coating Products, Inc.**, 101 W. Forest Ave., Englewood, N. J.

For more details circle NED-219 B1 on enclosed inquiry slip

DUO-MIX® DUO-FLO®

An improved system of mixing, metering and dispensing two-part compounds, resins, foams.

Low-cost, portable, compact equipment. Job-tested to 98% accuracy. Saves time and material. Single point control. Handles viscosities from 0 to 20,000 C.P.S. at room temperature. Selective 1 to 1 up to 20 to 1 component ratios for flow or spray direct from original 5 gal. pails or 55 gal. drums.

Simple operation, easy cleaning, versatile and economical.

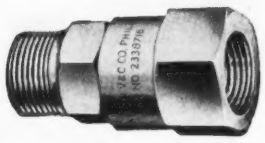
Write for complete literature and prices.

Pyles

PYLES INDUSTRIES, INC.
20855 TELEGRAPH RD • DETROIT 41, MICH

For more details circle NED-220 B1 on enclosed inquiry slip

KEEPS HOSE FREE from Harmful Twists and Kinks



"DIXON" SWIVEL CONNECTION

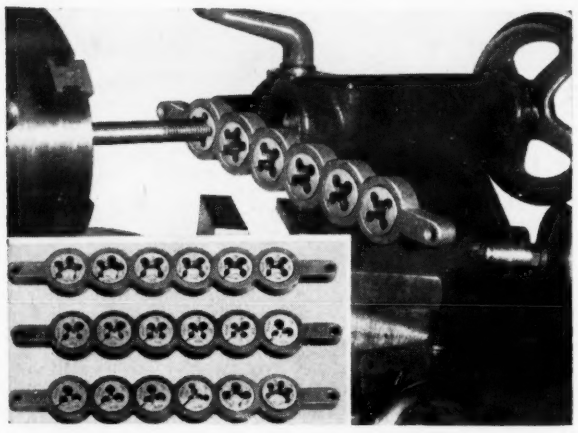
Used on end or intermediate connections this practical I.P.T. fitting eliminates twisting and kinking in hose in sizes up to ¾" I.D. Turns freely and remains leakproof under pressure. No parts to get out of order. Steel, cadmium plated.

ORDER FROM YOUR DISTRIBUTOR

DIXON *Valve & Coupling Co.*
GENERAL OFFICES & FACTORY—PHILADELPHIA 22, PA. BRANCHES—CHICAGO BIRMINGHAM • LOS ANGELES • HOUSTON • DIXON VALVE & COUPLING, LTD., TORONTO
ASSOCIATE COMPANIES—BUCK IRON COMPANY, INC., QUARRYVILLE, PA. • PRECISION DRAWN STEEL COMPANY, CAMDEN, N.J.

For more details circle NED-221 B1 on enclosed inquiry slip

NEW THREADING TOOL A Time Saver

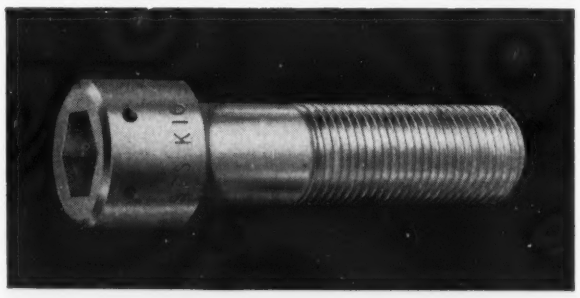


This is a new threading tool for use in maintenance, model and machine shops that is ready to cut 18 different thread sizes. Six dies are mounted in each of three holders.

Holders are precision made of high strength aluminum. Will cut threads on any kind of lathe, pipe machine, drill press, also an excellent hand tool. For free bulletin showing the many time saving applications, write:

MOHR TOOL & MFG. CO.
P. O. Box 63-G, Maywood, Ill.

For more details circle NED-222 B1 on enclosed inquiry slip



300% more fatigue life than any other standard cap screw

New UNBRAKO K16 socket head cap screws offer four times the fatigue life of ordinary cap screws; twice that of regular UNBRAKOS. Here are some reasons why:

- Threads rolled after heat treat for extra strength
- Fillet area cold worked after heat treat
- Shank ground after heat treat to insure no decarburization and for closer body tolerances
- Magnetic particle inspected per SPS Specs and MIL-I-6868

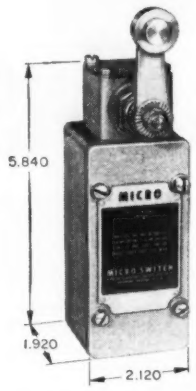
Standard K16 UNBRAKOS replace costly specials, assure reliability in critical high-fatigue applications. Sizes #8 to ½ in. See your SPS distributor or write Standard Pressed Steel Co.

INDUSTRIAL FASTENER Division SPS

JENKINTOWN 24, PENNSYLVANIA

For more details circle NED-223 B1 on enclosed inquiry slip

MICRO SWITCH Precision Switches



BUILT FOR PUNISHMENT!

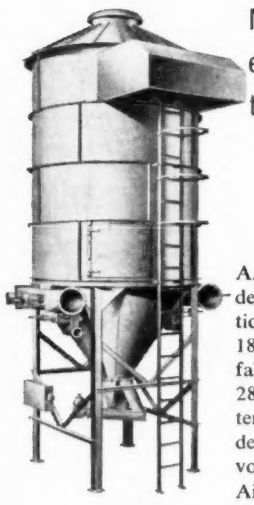
The "ML" Series of heavy-duty limit switches are built to "take it" in applications where oil splash, shock, vibration, metal filings and jarring actuation usually cause trouble. Both operating head and switching element are completely sealed. Actuator springs are built for extra-heavy duty. Ample space for easy, fast wiring. See the Yellow Pages for distributor name, or write for Catalog 84.

MICRO SWITCH . . . FREEPORT, ILLINOIS
A division of Honeywell
In Canada: Honeywell Controls, Limited, Toronto 17, Ontario

Honeywell
MICRO SWITCH Precision Switches

For more details circle NED-224 B1 on enclosed inquiry slip

AAF's high-temperature glass cloth collector

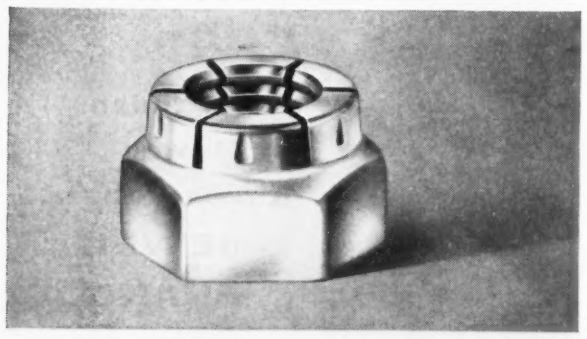


New fabric arrester collects extremely fine dust (or dust that must be reclaimed dry), at constant temperatures up to 550°F.

AAF's new Glass Cloth Collector is designed for high-efficiency operation at temperatures far above the 180° to 200°F limits of standard fabric arresters. Write for Bulletin 283 for more facts. Or, for normal-temperature applications, ask for details about the new constant-volume AAF AMERjet. American Air Filter Co., Inc., 391 Central Avenue, Louisville, Kentucky.

American Air Filter
BETTER AIR IS OUR BUSINESS

For more details circle NED-225 B1 on enclosed inquiry slip



Self-locking, vibration-proof FLEXLOC serves as locknut or stopnut

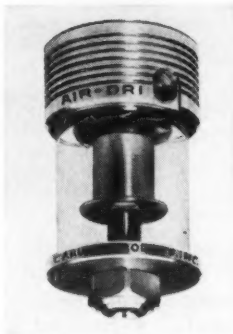
- Locks *without seating*—stays put wherever wrenching stops
- Holds tight despite impact, shock, vibration
- Simplifies design because it is one-piece—no auxiliary locking devices needed
- Can be readily removed, repeatedly reused
- Sizes #0-80 through 2"-4½
- In alloy steel, stainless steel, aluminum, brass

See your authorized industrial distributor. Or write SPS—manufacturer of precision threaded fasteners and allied products in many metals.

INDUSTRIAL FASTENER Division **SPS**
JENKINTOWN 24, PENNSYLVANIA

For more details circle NED-226 B1 on enclosed inquiry slip

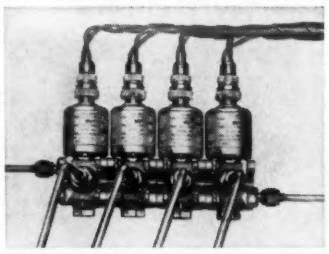
AIR DRYER-CLEANER
for use with air tools, equipment



Centrifugal action created by a spinning turbine at the inlet of the Air-Dri moisture extractor causes moisture to be driven out and down over a finned baffle. Dry air is directed through a 40-micron filter on its way to air tools and equipment. Accumulated moisture is drained from the bowl bottom by a finger-touch valve. • **Carlson Products, Inc.**, 5309 N. 24th St., Omaha 10, Nebr.

For more details circle NED-227 B1 on enclosed inquiry slip

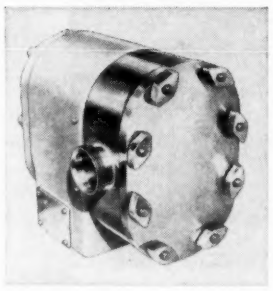
SELF-MANIFOLDING VALVE
magnetically or manually operated



Single Model MV-74MM pneumatic-hydraulic "building block" valve can be used in a one-valve application, or it can be manifolded into any number of valves, depending upon the end use. Basically it is a three-way, two-position, magnetically or manually operated valve, normally-open or normally-closed depending upon which port is pressurized. Almost any line fluid can be controlled. Operating pressure at all ports is 0 to 3000 psi, and 0 to 6000 psi in special models. Ambient and line fluid operating temperature is from −65 to 160° F, with up to 300° F in special models. Magnetically operated models use an 18-29 v dc coil or a 100-125 v ac coil. • **Marotta Valve Corp.**, Box 330, Boonton, N. J.

For more details circle NED-228 B1 on enclosed inquiry slip

ROTARY PUMPS
made in 3 to 300-gpm capacities



Floating impeller which speeds disassembly and cleaning and a simple sanitary seal with accessible static O-rings are features of the PR Series of positive rotary pumps. The entire seal is removable without the use of tools. Of sanitary, corrosion resistant construction, they have a reusable O-ring cover gasket. Pumps can be used against 29-in. Hg vacuum, 200-psi discharge pressure, and with up to 220° F fluids. Both intake and discharge port sizes range from 1 to 4 in. in models with capacities of 3, 10, 25, 60, 125, and 300 gpm. • **Ladish Co.**, Tri-Clover Div., Kenosha, Wis.

For more details circle NED-229 B1 on enclosed inquiry slip

Simplify your design and purchasing with HALLOWELL standard steel collars

- 45 stock sizes—1/16 to 3 inch bore
- Immediate delivery from local dealer stocks
- Precision machined from first quality bar stock; perfectly balanced
- Supplied with UNBRAKO knurled cup point socket set screws—famous for their locking reliability
- Every collar size marked for quick identification

For more information, see your authorized industrial distributor. Or write SPS—manufacturer of precision threaded industrial fasteners.

INDUSTRIAL FASTENER Division **SPS**
JENKINTOWN 24, PA.

For more details circle NED-230 B1 on enclosed inquiry slip

MAYBE WE CAN DO IT BETTER AND FOR LESS

Hundreds of Companies have found us the Right Source of Metal-Fabricating

We have facilities, experience and engineering counsel which may meet your special requirements—exactly. Three large, well equipped plants at **Aurora, Ill., York, Pa.** and **Los Angeles** geared to economical production. Years of experience handling thousands of special items . . . products, parts, subassemblies, merchandising units, made to your specifications.

Modern equipment includes coil steel slitting, leveling and edging, press work, all types of welding, electrostatic finishing.

Send for 16-Page Illustrated Booklet
It tells All!

LYON METAL PRODUCTS, INC.
General Offices, 231 Monroe Ave., Aurora, Illinois

For more details circle NED-231 B1 on enclosed inquiry slip

ALL DIGITS CAN BE READ FROM ANY ANGLE

IN-LINE DIGITAL READOUT
featuring
ONE-PLANE PRESENTATION
Series 10000

Over 1000 firms throughout the world in just a few years prove unprecedented acceptance of IEE digital readouts.

The IEE digital readout puts the digit right up front, visible from any angle. Vision is unimpaired by stacked characters and sharp, clear-white digits provide high-contrast, error-proof reading. Use of words, color, and multiple projections offer utmost versatility.

Binary-To-Decimal Decoders Available.
Representatives in Principal Cities •

PRICE COMPLETE **$18.00**
QUANTITY PRICES ON REQUEST
WRITE TODAY FOR COMPLETE SPECIFICATIONS.

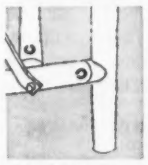
INDUSTRIAL ELECTRONIC ENGINEERS, INC.
Engineers and Manufacturers of Fully Automatic Systems and Digital Readouts
6528 Vineland Avenue, North Hollywood, California

For more details circle NED-232 B1 on enclosed inquiry slip

Use it for laminating... SEL-LOK spring pin

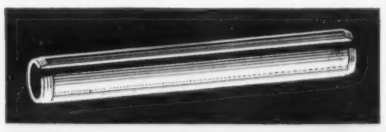
Tool handle

Lifts for women's shoes


Metal table legs

- Swift fastening—just drill and drive
- Secure locking—won't work loose despite shock or vibration
- Eliminates costly tapping, reaming, peening, milling
- Can be reused repeatedly
- 101 uses—as keys, cotter pins, axles, hinge pins, wrist pins, stop pins, pivots, etc.

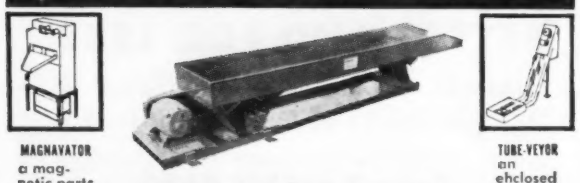
SEL-LOK spring pins are available in carbon and corrosion-resistant steel (from 1/16 x 3/16 through ½ x 5 in.) and beryllium copper (1/16 x 3/16 through ¼ x 3½ in.). See your SPS distributor or write for Bulletin 2331.



INDUSTRIAL FASTENER Division **SPS**
JENKINTOWN 24, PENNSYLVANIA

For more details circle NED-233 B1 on enclosed inquiry slip

PRAB PRECISION ENGINEERED
Specialized CONVEYING EQUIPMENT



MAGNAVATOR a magnetic parts elevator

TUBE-VEYOR an enclosed bulk handling conveyor

PRAB "Vibra-Power" OSCILLATING CONVEYORS

Here simplicity of construction results in low initial cost and minimum maintenance. Gentle action allows handling of fragile materials. Because there is no dragging or squeezing, abrasive material can be handled easily. The "Vibra-Power" is sanitary—inherently self-cleaning and can be totally enclosed to eliminate dust, liquids, smoke or germs.

PARTS FEEDING CONVEYOR

BUCKET ELEVATOR

Materials Handled Include: Welding Flux • Sand • Coal Sawdust • Castings • Corn Fertilizers • Cast Iron Chips Scrap Turnings • Limestone Cement • Stampings • Sugar Glass Cullet • Ice.

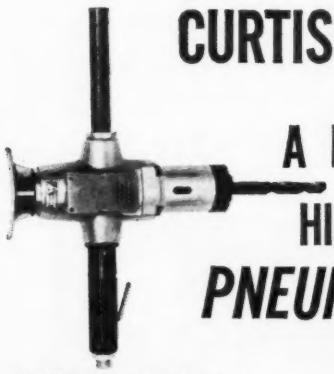
VIBRATING CONVEYOR

STEEL BELT CONVEYOR

SEND FOR BULLETIN #VB-95
Representatives in Principal Cities

PRAB CONVEYORS, INC. PRAB Products Mfd. under Pats.
30119 GROESBECK HWY. ROSEVILLE (Detroit), MICH.

For more details circle NED-234 B1 on enclosed inquiry slip



CURTISS-WRIGHT
ANNOUNCES
A NEW LINE OF HIGH QUALITY *PNEUMATICALLY OPERATED* HAND TOOLS

PNEUMATIC DRILLS—Sizes from ¼" to 1¼". Weight, ½ to ⅓ as much as comparable electric drills. Easily controlled speed, for slow starts without pre-centering.

Precision designed, pneumatically operated hand tools manufactured by the internationally known Grasso Works of Hertogenbosch, Holland, are now sold and serviced through the Marquette Division, Curtiss-Wright Corporation. Here is the complete selection of economical hand tools that combine light weight and rugged construction with high speed and excellent balance for fast, comfortable, safe operation and long maintenance-free service. For production, maintenance, and general utility work the complete line of hammers, drills, sprayers, riveters, rammers, and the all-purpose 6-in-1 COMBINAIR kit meet every industrial requirement.

GRINDERS—Small, compact, and powerful with diameters from ¾" to 9".

HEAVY DUTY HAMMERS—Available with round and hex shanks and a wide range of fittings for cutting, scaling, chipping, caulking, etc.

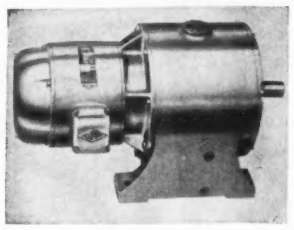
COMBINAIR—6-in-1 all-purpose tool. The basic unit, with attachments, can be used for drilling, cutting, sanding, buffing, corner drilling, and polishing.

FOR INFORMATION WRITE THE MARQUETTE DIVISION, CURTISS-WRIGHT CORPORATION.

CURTISS WRIGHT
MARQUETTE DIVISION
AD NO. 32-5 1145 Galewood Drive, Cleveland 10, Ohio

For more details circle NED-235 B1 on enclosed inquiry slip

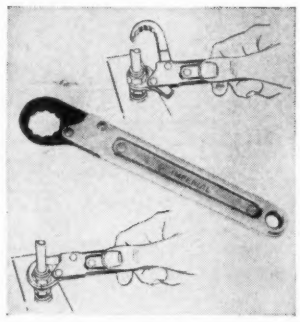
HELICAL SPEED REDUCERS
½ to 50 hp packaged units



Typical of drive motors offered as standard with this line of helical Motoreducers are Fluid-Shaft, wound rotor slip ring, squirrel cage, crane hoist and torque in dripproof and totally enclosed types. The packaged integral motor and gear reducer is made in ratings from ½ to 50 hp. Gear reduction ratios are furnished from rated motor speeds down to 520 through 9-rpm output shaft speeds. • **Reuland Electric Co.**, Mission & Fremont, Alhambra, Calif.

For more details circle NED-236 B1 on enclosed inquiry slip

RATCHET WRENCH KIT
designed for close-quarter work



Rapid assembly of tube, hose, and pipe fittings, and tightening machine nuts and hex fasteners in close quarters are handled easily with the No. 399-F Kwik-Tite ratchet wrench kit. It contains ½, 9/16, ⅝, and ¾-in. wrenches. Jaws are forged chrome-vanadium steel, and the shaped handles are spring steel. All surfaces are cadmium plated, and all parts are replaceable. Lightweight wrench needs only 30-degree handle movement to get a new grip on a nut. • **Imperial-Eastman Corp.**, 6300 W. Howard St., Chicago 48, Ill.

For more details circle NED-237 B1 on enclosed inquiry slip

STORED ENERGY PACKAGE
gas unit actuates mechanisms

Small and light in weight, the Con-O-Pak stored energy package releases high pressure gas from a storage bottle by an explosive-actuated pressure release valve to actuate a wide range of mechanisms. It operates in only 0.002 sec at the recommended firing current of 2 amp. Minimum firing current required is as low as 1½ v. Device will actuate safety and fire extinguishing systems, control valves, pneumatic actuators, and pressuring and purging systems. Standard charge is nitrogen gas at 350, 500, 1000, or 1500 psi. Unit is 6½ in. long, has 3 cu in. volume, and weighs 5½ oz. Other gases, cylinder sizes, and capacities are available. • **Conax Corp.**, 2300 Walden Ave., Buffalo 25, N. Y.

For more details circle NED-238 B1 on enclosed inquiry slip

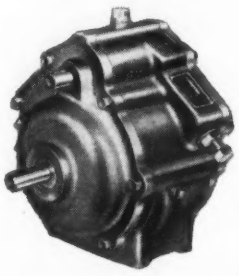
Available in Stainless Steel, Brass, Aluminum and Steel
JACOBSON NUT MFG. CORP. Kenilworth, New Jersey

For more details circle NED-239 B1 on enclosed inquiry slip

HOT-SHIFT TRANSMISSIONS

S-N Reversing Transmissions have precision-designed features that meet your requirements for power transmission. Space-saving single units—Smooth and instant reversing under full load—Gives you maximum flexibility of design—Performance-proven—8 HP and 28 HP models available.

MODEL 5108
FORWARD, REVERSE, NEUTRAL, REDUCTION

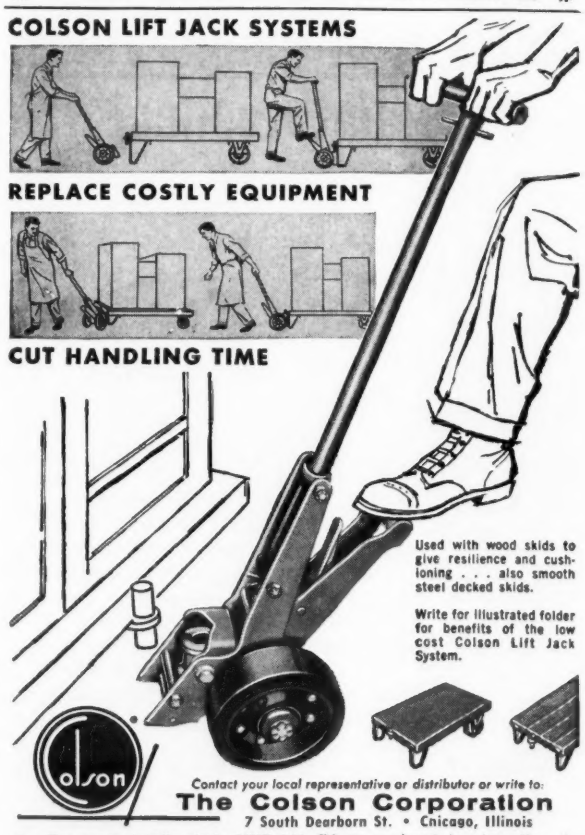


SPECIFICATIONS	
Reduction Forward	3.75:1
Ratio Reverse	3.75:1
Power up to	8 HP
Max. Input Torque	320 in. lbs.
Max. Input Speed	2400 RPM
Dimensions Long	9 1/16"
Dimensions Wide	10"
Dimensions High	10⅜"

Write for technical literature:
SNOW-NABSTEDT
The Snow-Nabstedt Gear Corporation
Hamden, Connecticut
TRANSMISSION SPECIALISTS FOR OVER HALF A CENTURY

For more details circle NED-240 B1 on enclosed inquiry slip

COLSON LIFT JACK SYSTEMS



Contact your local representative or distributor or write to:
The Colson Corporation
7 South Dearborn St. • Chicago, Illinois

For more details circle NED-241 B1 on enclosed inquiry slip

for a better finish and lower grinding cost... JEWEL BRAND abrasive belts

Today's modern machines practically think for themselves, but they can't choose the right abrasive belt. That's why experienced men specify Jewel Brand. They know that Jewel Brand abrasive belts give them the right bond, the right backing, the right grain. For a trial run in your plant, call your industrial distributor or write Abrasive Products, Inc., South Braintree 85, Massachusetts.

JEWEL BRAND
COATED ABRASIVES
belts • rolls • sheets • discs • specialties

For more details circle NED-242 B1 on enclosed inquiry slip

SAVE SPACE AND REDUCE COSTS WITH AURORA® VERTICAL END-SUCTION PUMPS

Capacities to 1800 GPM
Heads to 320 Feet

Close-coupled, vertical mounting design provides the extreme compactness that is so important where space is critical. Flanged suction mounting cuts piping costs and eliminates separate foundation arrangement. Optional discharge arrangement permits the most simplified installation. Also available in horizontal close coupled or flexible coupled models. Write for Bulletin.

AURORA Always PUMPS

AURORA PUMP DIVISION
THE NEW YORK AIR BRAKE COMPANY
1180 LOUCKS ST. • AURORA, ILLINOIS
LOCAL DISTRIBUTOR IS LISTED IN THE YELLOW PAGES OF YOUR PHONE BOOK

For more details circle NED-243 B1 on enclosed inquiry slip

IT'S EASY TO STRIP OFF PAINT

and Solve Your Stripping Problems with—

EPOXYSTRIP

PAINT STRIPPER—Saves Time and Money!

A new more powerful paint stripper that outstrips all others! No organic finishes have yet resisted this amazing paint stripper. It was especially formulated to remove epoxies . . . with the same ease that it removes baked enamels, lacquers, etc. No stripping scum—clean rinsing!

- EPOXYSTRIP WILL NOT HARM SOFT METALS
- ECONOMICAL—MORE JOBS PER GALLON AT LOWER COST
- NO SCRUBBING OR MANUAL ASSISTANCE
- RECOMMENDED BY LEADING FINISH MANUFACTURERS

SEND FOR FREE BROCHURE

JOBBERS: Beck EPOXYSTRIP sells on demonstration. Try it and see for yourself.

BECK EQUIPMENT COMPANY
3350 WEST 137th STREET — CLEVELAND 11, OHIO

For more details circle NED-244 B1 on enclosed inquiry slip

NOW! Punch both round and shaped holes with one unit

● STRIPPIT "CJ" holders and die bases are keyed to take both round and shaped parts. Yet you pay no more for the "CJ" unit than any competitive round hole unit.

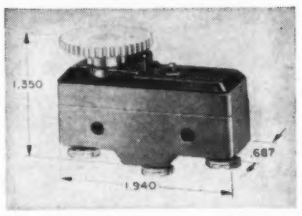
If your current metalworking requirements call for round holes in anything up to ¼" mild steel, the STRIPPIT "CJ" fills the bill. Then if you have to punch obround, square or rectangular holes, simply substitute the proper shaped punches, punch guide and die buttons. They're always in stock. You save the cost of a complete new unit or the inconvenience of returning your existing unit to the factory for keying. Write now for free catalog.

UNIT OF HOUDAILLE INDUSTRIES, INC.

WALES **STRIPPIT** INC.
227 Buell Road • Akron, New York

For more details circle NED-245 B1 on enclosed inquiry slip

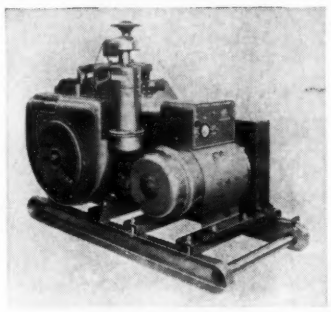
ADJUSTABLE TRAVEL SWITCH
rated 20 amp at 120 to 460 v ac



Knurled wheel on top of the 10BS210 switch permits differential travel adjustment from 0.0025 to 0.007 in. Thus, operating force is adjustable from 12 to 32 oz and the differential force from 2 to 15 oz. Release force remains constant at 10 oz. Switch is suited for controlling such devices as pressure control or blower fans. It is rated 20 amp at 120, 250, or 460 v ac. • **Minneapolis-Honeywell Regulator Co.**, Micro Switch Div., 205 S. Chicago Ave., Freeport, Ill.

For more details circle NED-246 B1 on enclosed inquiry slip

ENGINE DRIVEN GENERATOR
remote starting, 12,000-w ac unit



Ample 115/230 v ac power for standby and portable power needs is produced by the Balanced Power Winco engine generator. Powered by a Wisconsin VH4D air-cooled gasoline engine, unit is rated 12,000 w ac and is equipped for remote starting. Generator will carry such loads as a 5 hp motor, plus 6000 w of simultaneous resistive load. • **Wincharger Corp.**, E. Seventh & Division Streets, Sioux City 2, Iowa.

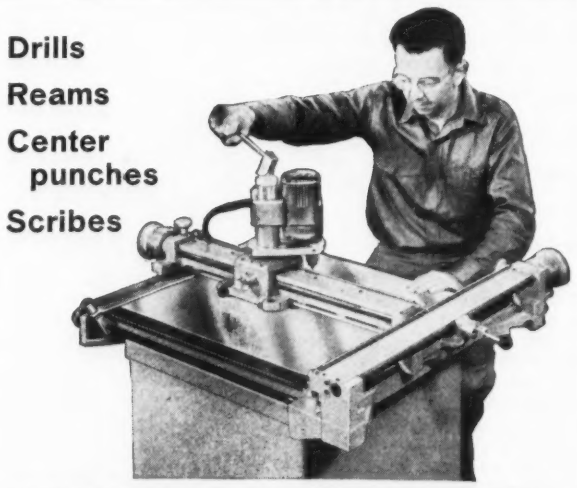
For more details circle NED-247 B1 on enclosed inquiry slip

PLASTIC GRANULATOR
reduces 500 lb per hour

Double-shear knife action of this M-400 thermoplastic material granulator enables it to grind small purgings, lumps, large area rejects, gates, and sprues at a rate of 500 lb per hour. Hot and cold materials, including elastomerics, can be fed simultaneously. Caster-mounted unit is offered in throat sizes of 8 x 20 and 12 x 20 in., with either a 15 or 20-hp motor. Hinged hopper opens to expose the interior of the cutting chamber for screen replacement or cleaning, and pullout discharge bin has a sight glass for viewing material level. • **Ball & Jewell, Inc.**, 22 Franklin St., Brooklyn 22, N. Y.

For more details circle NED-248 B1 on enclosed inquiry slip

Drills
Reams
Center punches
Scribes



STRIPPIT FLEX-O-DRILL

Saves time. No base line drawings or vernier height gauges required. Anybody who can read blueprints and knows anything about layout practice can work the STRIPPIT Flex-O-Drill in just a few minutes.

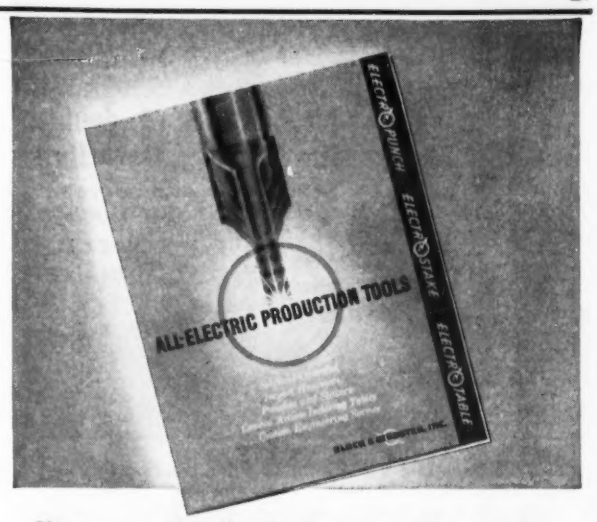
Greater accuracy. Adjustable steel tape positions bridge and drill carriage rapidly—then micrometric gauges bring setting to the nearest 0.001" in seconds. Capacity is ¼" mild steel—up to 24" width—any length.

Ask about free demonstration in your plant.

UNIT OF HOUDAILLE INDUSTRIES, INC.

WALES **STRIPPIT** INC.
227 Buell Road • Akron, New York

For more details circle NED-249 B1 on enclosed inquiry slip



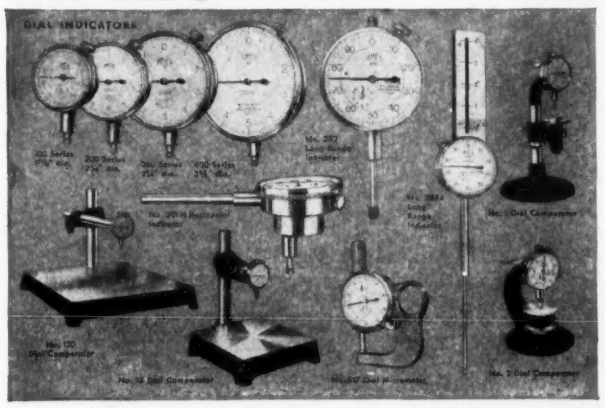
Here are the fastest assembly tools in their class . . . introduced to you in this FREE catalog.

If you want to speed up production and cut costs in a wide variety of assembly operations requiring staking, crimping, swaging, riveting, peening as well as marking and punching, write for this new, complete Black & Webster catalog, describing the most modern, fastest all-electric assembly tools in their class. Write:

BLACK & WEBSTER, INC.
570 PLEASANT ST., DEPT. 1, WATERTOWN 72, MASS.

For more details circle NED-250 B1 on enclosed inquiry slip

AMEs *Masters of Measurement*



DIAL INDICATORS AND GAUGES

Use Them for Checking: taper, height, depth, flatness, roundness, straightness, thickness, diameter, length and size.

Features Include: easy-to-read dials, unbreakable crystals, forged cases, backs and wheel support, contour-lapped pinion teeth.

Attachments: rubber and metal dust guards, long stem indicators, tolerance hands, lift levers, special backs, contact points, etc.

For literally hundreds of measuring, indicating and comparing operations, you'll find Ames standard and customized gauges and indicators unerringly accurate and amazingly durable . . . *You're asking for the best when you specify Ames!*
B. C. AMES CO., Waltham 54, Mass. Representatives in Principal Cities—
In Canada, H. C. Burton Co., 166 Rebecca Street, Hamilton, Canada.

B.C. AMES CO.
MANUFACTURERS OF MICROMETER DIAL INDICATORS, DIAL GAUGES, ACCI-FLOW AIR GAGES, PORTABLE TRANSISTORIZED COMPARATORS

For more details circle NED-251 B1 on enclosed inquiry slip

NEW STRIPPIT "BN"

self-contained, self-stripping hole punching unit

● Designed for use *with or without* a guide button. However, for special applications and optimum hole quality, the option of using a fitted guide is still available. Since all holders are keyed, only a punch and die are required for piercing round and shaped holes in material up to 10 ga.

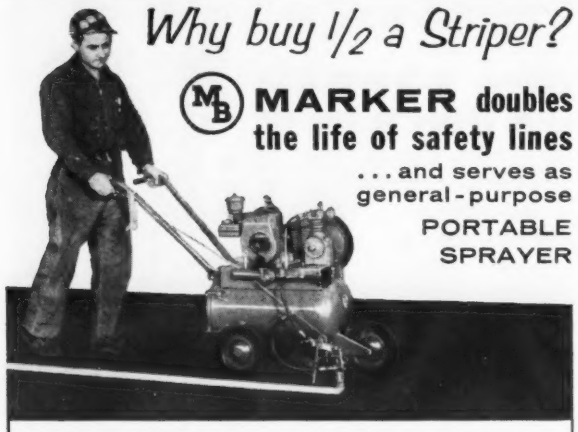
The "BN" unit has many other innovations which will make it your immediate choice. Get the complete story. Write now for free "BN" catalog.

UNIT OF HOUDAILLE INDUSTRIES, INC.

WALES **STRIPPIT** INC.
227 Buell Road • Akron, New York

For more details circle NED-252 B1 on enclosed inquiry slip

Why buy 1/2 a Striper?



MARKER doubles the life of safety lines
... and serves as general-purpose PORTABLE SPRAYER

Safety lines last twice as long when applied by the atomized-pressure method as compared to gravity feed roller or brush machines, thus saving paint, labor, and time. The versatile Model 1-10 stripes accurate lines (2½" to 5" widths) on any surface in aisles, parking areas, fire lanes, and warehouse space. It's plenty fast too — one man can mark 8,000 feet of 4" line per hour! Large 11 gallon paint tank eliminates refill delays. Plus, the machine serves as a general-purpose portable sprayer. Larger Model 3-10 available. Write for details today. M-B Corp., New Holstein, Wisconsin.

M-B CORPORATION NEW HOLSTEIN, WIS. Refuse Packers Line Stripers • Sweepers
QUALITY EQUIPMENT SINCE 1907

For more details circle NED-253 B1 on enclosed inquiry slip

RAWL

Anchoring and Drilling Devices for Fastening Anything to Masonry

SABER-TOOTH Drill-N-Anchor

DURATHERM heat-treated self-drilling masonry anchor...

drills fast . . . only 45 seconds to install! Core-action cuts only the masonry around the hole's perimeter. Drills its own hole in even the toughest masonry, saves buying or sharpening drills, eliminates matching drill and anchor sizes, measuring for proper hole depth.

holds tight . . . over 9 tons for a ⅞" size! Teeth undercut the drilled hole and expand deep in the masonry, back-tapered ridges add holding power . . . the concrete or the bolt usually breaks before the anchor pulls out. UL, FM approved.

Full range of sizes and styles:
Hand Flush Type Rod Hanger Type
Stud Type Tie Wire Type

RAWLPLUG

universal masonry anchors ...now BRANDED "RAWL"

- High holding power.
- Smaller hole required . . . saves drilling time, cuts cost of drills.
- Absorbs shock and vibration.
- Eliminates need for hole spotting.
- Economical to buy and use.

and a complete line of masonry anchors and drills including Calk-Ins . . . Spring-Wings . . . Lag-Shields . . . Rawldrills . . . Spiral carbide drills . . . and many other anchors, drills, and accessories . . . all in the new "Masonry Anchoring Handbook."

For FREE copy, mail the coupon to:

The RAWLPLUG Company, Inc. R-13
256 Petersville Road, New Rochelle, N. Y.
Please send me a FREE copy of the "Masonry Anchoring Handbook" with complete information about all Rawl Products.
Name ..... Title .....
Company .....
Address .....
.....

For more details circle NED-254 B1 on enclosed inquiry slip

BATTERY POWERED PHONES for portable or permanent use

No electrical connection or external power source is required to operate these transistorized intercommunication phones. Two 6 to 12-month life batteries are in each phone, designed for portable or permanent use in plants, warehouses, and offices. To use the inexpensive units, the caller presses a red signal button to alert the person at the other phone. Each party presses and holds a black speaking button during conversation. Phones are connected by standard lamp type cord. Serviceable distance is up to 90 miles. Accessories include relay units for direct reception of outside telephone calls, a bell box set for outdoor use, and desk and head sets. • **Jobet Industries, Inc.**, 547 W. South Park Ave., Oshkosh, Wis.

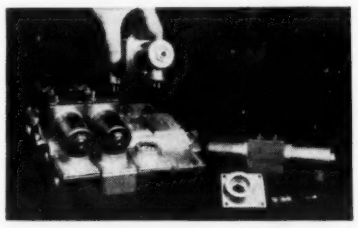
For more details circle NED-255 B1 on enclosed inquiry slip

ABRASIVE DISK WHEELS are reinforced, have resinoid bond

Designed for fast grinding action with quick metal removal, Alpha reinforced resinoid depressed-center disk abrasive wheels can be used for beveling edges, weld grinding, notching, and trimming. Abrasive grain size from 14 to 120 is offered in these 7 and 9-in. diameter wheels in 1/8, 3/16, 1/4, and 3/8-in. thicknesses. • **Atlantic Abrasive Corp.**, South Braintree 85, Mass.

For more details circle NED-256 B1 on enclosed inquiry slip

MANIFOLD AIR VALVE easily maintained and replaced



Hy-Cyclic stacking manifold air valve can be lifted from the manifold plate and replaced by simply removing four bolts. Valve is available in single and double solenoid models, two or three position, three or four-way, in 1/4, 3/8, and modified 1/2-in. sizes. Solenoids plug into electrical connections located in the manifold plate. The same manifold stack accepts all three sizes and all styles. Valves can be added to system at any time, using the same air supply, by bolting one manifold plate to another. • **Beckett-Harcum Co.**, 985 W. Locust St., Wilmington, Ohio.

For more details circle NED-257 B1 on enclosed inquiry slip

VIBRA-WASHER

... THE COMPLETELY NEW AUTOMATIC PARTS WASHER AND METAL CONDITIONING MACHINE

- **Labor saving**
- **Automatic unloading**
- **For single or multi-stage operations**
- **No nesting of parts during cleaning or conditioning cycle**
- **Adjustable capacities to 10,000 lbs. per hour**

The versatile new Simplicity VIBRA-WASHER, revolutionary machine for washing and conditioning of small metal parts, stampings and castings, employs a vibrating work carrier that automatically conveys parts through cleaning or conditioning bath. Solution is forced around parts, even into blind drillings and slots. In single stage, VIBRA-WASHER removes chips, oil and grease quickly . . . economically. In multi-stage, several units in line will provide cleaning, rinsing and phosphating, eliminating "between-stage" handling. Write today for Bulletin 107, to: Industrial Washer Division.

Simplicity TRADE MARK REGISTERED
212 ENGINEERING COMPANY • DURAND 15, MICH.

For more details circle NED-258 B1 on enclosed inquiry slip

Measures Nonmagnetic Coatings with ± 5% ± .0001" accuracy

NEW pocket-size THICKNESS GAUGE

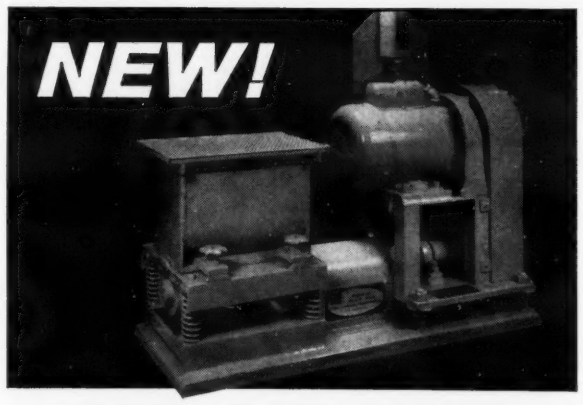
ELCOMETER measures thickness of porcelain enamel, paints, platings, foils, glass, paper, plastics, and other nonmagnetic coatings—quickly and accurately. Gauges flat or curved surfaces and hard-to-get-at spots easily. Needle-locking device assures correct reading every time. Available in twelve scale ranges with contact spheres, "V" block, or flat bases.

Complete with tough leather case, containing inner pocket for test strips, and carrying harness. Weighs only 6 oz.

ONLY $83.75 F.O.B. Cleveland

WRITE FOR ILLUSTRATED FOLDER
FERRO CORPORATION
4150 East 56th Street • Cleveland 5, Ohio

For more details circle NED-259 B1 on enclosed inquiry slip



PORTABLE BENCH MODEL VIBRATORY FINISHING MACHINE

Now vibratory finishing is economically practical for even the smallest, most delicate parts, in small production volumes. LORCO, originator of vibratory finishing, offers you the first variable-amplitude vibrating machine in portable, bench-model size. Only 1 ft. high, occupies less than 3 sq. ft. of table space, yet has same vibratory action, produces results comparable to larger Lorco machines. Finishes and deburrs close tolerances in amazingly short time cycles. Write for details.

LORD CHEMICAL CORP.
A majority-owned subsidiary of Wheelabrator Corp.
2068-G SOUTH QUEEN STREET, YORK, PA.

For more details circle NED-260 B1 on enclosed inquiry slip

DEEP HOLE DRILLING

Single or Multiple Spindle

- **STEP AND REPEAT ACTION—*NO SHOCK***
  The number of steps possible is infinitely variable—to satisfy any requirement.
- Reduces breakage and over-heating of drills.
- Can be added to existing machine, or used to replace old style units.
- Adaptable to any single or multiple—spindle application.
- Self contained—Compact

Write for Literature

Available in from 1 to 5 H.P. —up to 12" Stroke

Typical example of a multiple spindle unit drilling in medium hard cast iron.

A Drillunit—5 H.P. Capacity will drive
10 ¼" dia. drills
or 6 ⅜" dia. drills
or 4 ½" dia. drills
or 3 ⅝" dia. drills
or 2 ¾" dia. drills
or 1 1" dia. drill

DRILLUNIT, INC.
HYDRAULIC DRILL UNITS
3267 Wight Street • Detroit 7, Michigan

For more details circle NED-261 B1 on enclosed inquiry slip

Speed Up Small Parts Inspection!

★ Vibratory Feed for Even Flow
★ Adjustable Belt Speeds, Rate of Feed
★ Variable Center Drop Turns Work Over

Ideal for small parts and moldings, GOODMAN INSPECTION TABLES pay for themselves in months! Users report two girls now doing work of eight! Faster, smoother inspection, better quality control, less inspector fatigue. Smaller-sized and luminous belt models, too!

Write for Interesting Folders and Prices!

Sales Representatives:
RALPH B. SYMONS ASSOC., 3573 Main Rd., Tiverton, R. I.
WILLIAM A. SAFKA, 11 Sycamore Road, Levittown, Pa.
R. A. ROOSEVELT CO., 4909 E. Florence Ave., Bell, Calif.

G. F. GOODMAN & SON
1007 E. Columbia Ave., Philadelphia 25, Pa.

For more details circle NED-262 B1 on enclosed inquiry slip

Simplify design, purchasing, production with

MOORE PDQ* SET SCREWS

***PDQ** means price, delivery, quality. And you get all three with Moore Set Screws. The PRICE is right. Ample production capacity and inventories assure fast DELIVERY. And rigid control standards guarantee there's no skimping on QUALITY. Specify Moore Set Screws and *be sure.* Dependable quality for over 80 years.

Send for catalog

MOORE SET SCREWS
George W. Moore, Inc.
since 1880
94 Beaver St., Waltham 54, Mass.

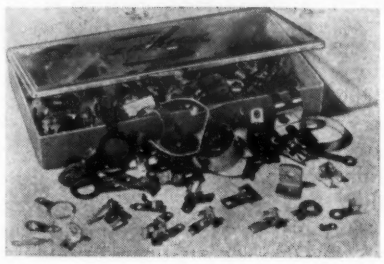
For more details circle NED-263 B1 on enclosed inquiry slip

ELAPSED TIME METER
totalizes time circuit is energized

Type BH - 351 elapsed time meter indicates the total time that a particular circuit is energized. It is thus suited for use in tube replacement programs and maintenance scheduling of electrical equipment, including diesel generators, motors, welders, and radio and TV transmitters. Unit is offered with or without reset knob and can be mounted from front or back of panel. Six register wheels give indication up to 99,999.9 hr. • **Westinghouse Electric Corp.**, Box 2099, Pittsburgh 30, Pa.

For more details circle NED-265 B1 on enclosed inquiry slip

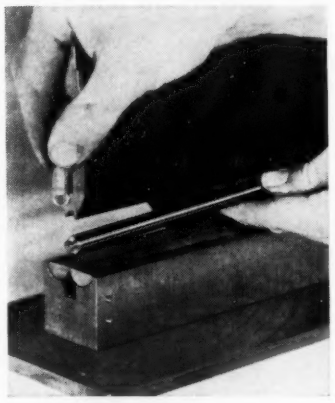
TERMINAL KIT
contains over 500 connectors



Assortment of over 500 lugs, clips, and terminals in the R & D Terminal Kit allows experimental work to progress without interruption. Chosen from more than 500 standard types, the lugs and terminals are hot tinned for easy soldering. Items are packed in a plastic box with see-through lid. Kit is priced at $2. • **Zierick Mfg. Corp.**, 110 Beechwood Ave., New Rochelle, N. Y.

For more details circle NED-266 B1 on enclosed inquiry slip

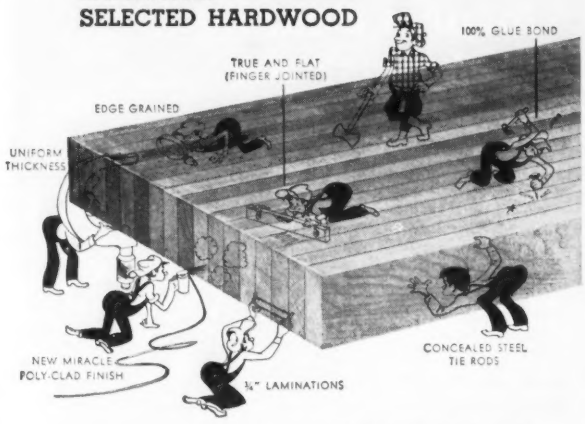
PRESS BRAKE DIE
has changeable radius insert



Radius bends from 0 to 3/8 in. can be formed with this Snap Form upper press brake die by changing the radius insert as shown in picture. Ten interchangeable inserts are provided. One insert can be indexed to provide a zero radius as well as 1/32, 1/16, and 3/32-in. radii. Nine additional inserts provide one radius each, totaling 13 different radii that can be formed with one die on standard press brakes and punch presses. Dies are heat treated alloy steel with ground and polished inserts and are offered in 6-in. to 12-ft lengths. • **O'Neil-Irwin Mfg. Co.**, 582 Eighth Ave., Lake City, Minn.

For more details circle NED-267 B1 on enclosed inquiry slip

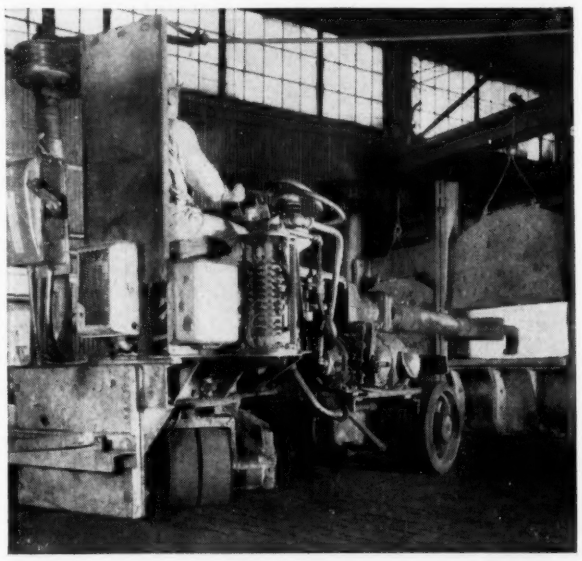
BENCH TOPS



• Tolerton tops are available from 1¼" to 4" thick, in widths and lengths to meet any requirement. Maple or steel base units also available in wide variety of sizes and styles. Write for technical, descriptive brochure.

Established 1894
TOLCO THE TOLERTON COMPANY
265 N. Freedom Avenue • Alliance, Ohio

For more details circle NED-268 B1 on enclosed inquiry slip



New B.F.Goodrich industrial tires put a damper on hot-steel handling problems

Jessop Steel Co. gets 3 times more tire service by following TW Analysis Man's advice

Razor-sharp steel scrap, red-hot scale and oil once were a terrific problem to Jessop Steel Co., Washington, Pa. Ordinary tires on the Auto-Floor Charging machine (used to deliver steel bars to the heat treating furnace and rolling mill) were torn to pieces in 2 months. Tire costs skyrocketed.

Then Jessop called the B.F.Goodrich Tire & Wheel Analysis Man. He studied the problem, then recommended B.F.Goodrich Novitane tires made of a new BFG-developed polyurethane compound that shrugs off the materials which kill regular tires. The Novitane tires pictured have worked over 5 months. Try to find a sign of wear on them.

This is typical of the savings B.F.Goodrich Tire & Wheel Analysis Men offer. Without cost or obligation, the TW Analysis Man will study your setup. Then he'll recommend the BFG tires that will give longest service at lowest cost—advice that is unbiased because B.F.Goodrich makes a complete line of industrial tires. Take advantage of this free BFG service. Mail the coupon today.

A special B.F.Goodrich consulting service is available to manufacturers of materials handling equipment.

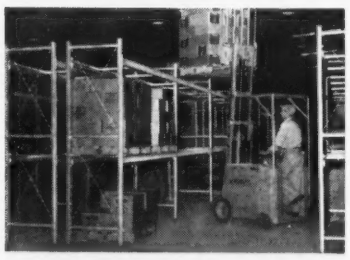
B.F.Goodrich
Specify B.F.Goodrich tires when ordering new equipment

The B.F.Goodrich Company Department TW-833, Akron 18, Ohio

Please send me additional information on your free Tire and Wheel Analysis Plan.

Name ____
Company ____
Street ____
City ____ Zone ____ State ____

For more details circle NED-269 B1 on enclosed inquiry slip



American Slide-n-Lock selective type racks
for all types of merchandise—whether light packages or heavy metal products.

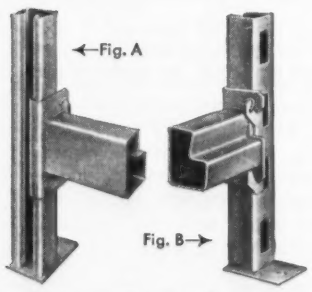


Fig. A—smooth line construction of aisle side of post and stringer eliminates hazardous protrusions. Fig. B—note rigid connection when stringer is "locked" to post.

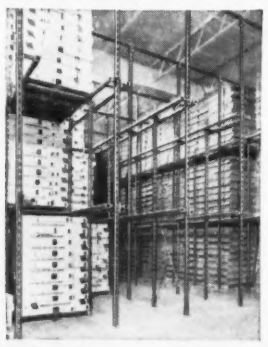
no racks can take the place of *American* adjustable STORAGE RACKS

no other racks can match these features

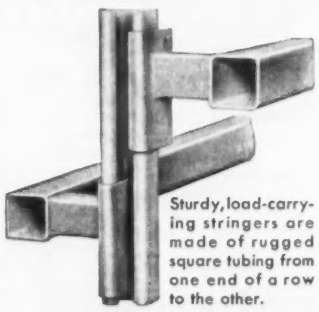
1. **American Stringers are one-piece**—made of durable, continuous welded steel tubing, made from high carbon steel.
2. **American Posts are rugged**—made from extra heavy gage steel—roll formed by special tooling.
3. **American has the highest safety factor** of any leading rack manufacturer—this means greater protection to truck operators and merchandise.
4. **American Racks are easy to erect**—no costly bolting—all parts hook into place.
5. **American Racks are easy to adjust**—all stringers move independently of any other part—they raise and lower like a window, on 4" centers.
6. **American Upright Frames are cross-braced** against sway—turnbuckles provide ready take-up for uneven floors.

AMERICAN METAL PRODUCTS CO.
STORAGE RACK DIVISION
5977 Linsdale Ave. amp Detroit 4, Michigan

Manufactured in Canada by Sunshine-Waterloo Co., Ltd., Waterloo, Ontario



American Open-End drive-in type racks
make aisle space storage space . . . ideal for bulk storage



Sturdy, load-carrying stringers are made of rugged square tubing from one end of a row to the other.

send for catalog

For more details circle NED-264 B1 on enclosed inquiry slip

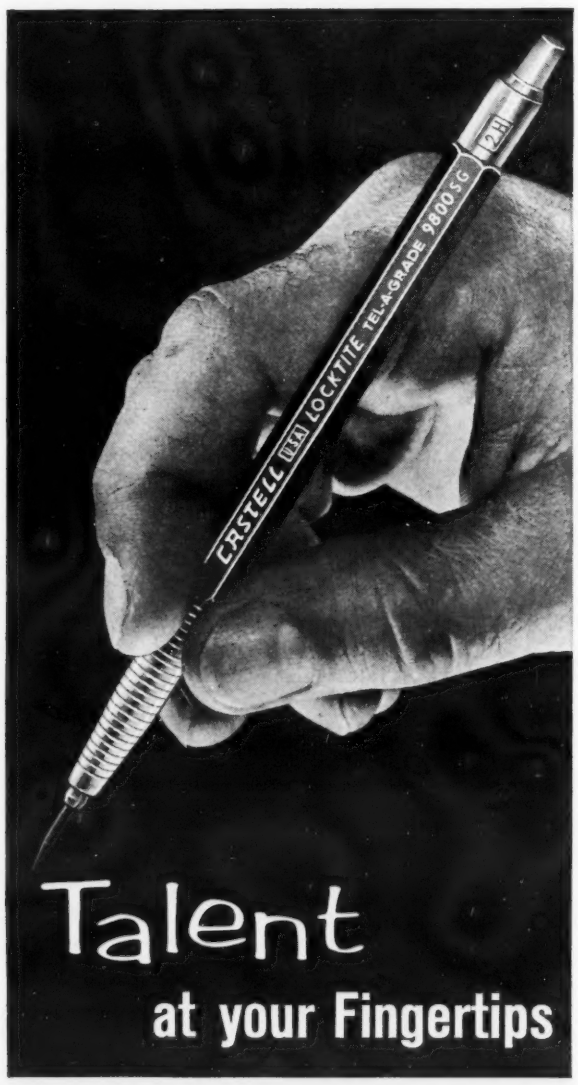
Does R & D on Your Product Involve Bearing Problems?

Write for McGill Brochure No. 660, a bulletin of facilities and abilities. It explains how we can help you on your bearing application problems in the early stages of product research and development.

engineered electrical products
McGILL
precision needle roller bearings

McGILL MFG. CO., Bearing Div., 101 N. LAFAYETTE ST. VALPARAISO, IND.

For more details circle NED-270 B1 on enclosed inquiry slip



Talent at your Fingertips

We are talking to a special breed of men who have their feet on the ground and their eyes on the stars ■ You have already come part way ■ There are more years of striving ahead—and then the pinnacle ■ If you are like other masters in your profession, your #9800 SG **Locktite** Tel-A-Grade Lead Holder will accompany you all the way to the top ■ Because **Locktite** becomes a part of your creative process ■ Its no-slip, functional grip with special serrations gives you smooth traction —and blessed comfort to your fingers ■ You like the bulldog clutch and the unique indicator that reveals the degree in use at a glance ■ You haven't had to use the ironclad 2-year guarantee—but you know it's there . . . that if any part of your **Locktite** Tel-A-Grade breaks in normal use, **A.W.Faber** will replace the entire holder without cost ■ Happy voyage—to you and **Locktite!** ■ **Castell Drawing Leads #9030,** *identical in grade and quality with world-famous Castell drawing pencil* ■ *Usable in all standard holders, but perfect for Locktite* ■ *7B to 10H, and a kaleidoscope of colors* ■ *Draws perfectly on all surfaces, including Cronar and Mylar base Films* ■

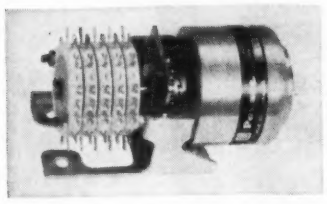
A.W.FABER-CASTELL Pencil Co., Inc., Newark 3, N. J.

Our Bicentennial year—1761-1961 200 years of uninterrupted manufacturing experience.

CASTELL DRAWING LEAD 9030

For more details circle NED-271 B1 on enclosed inquiry slip

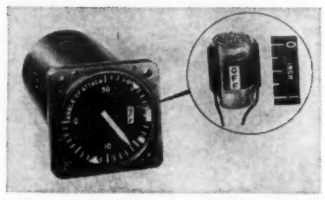
SOLENOID DRIVEN SWITCH
handles ten stacked wafer switches



Measuring only 1⅝ in. long, this Pascol D-size rotary solenoid and detent mechanism will actuate up to ten 11/64-in. thick wafer switches with an input of 60 w or less. The entire solenoid-switch package fits in a 1½-in. diameter tube after wiring, and can be mounted in any position. The standard solenoid steps 360 degrees in 30-degree increments and is single-pulse operated. The stator and rotor contacts are molded into insulators for permanent, precise positioning. ● **Illinois Tool Works,** Licon Div., 6606 W. Dakin St., Chicago 34, Ill.

For more details circle NED-272 B1 on enclosed inquiry slip

INDICATOR
displays on-off, 3-position readout



On-off or three-position functional information is displayed by the Specialert signaler, a rotor type indicator which mounts within the window of other meters. Device positively indicates alarm, position, or malfunction and is not subject to burn-out. It operates magnetically on low power and has only one moving part—a "floating rotor." Signaler meets military requirements and is available with various lettering, colors, and fluorescent materials. ● **Specialties, Inc.,** Skunks Misery Road, Syosset, L. I., N. Y.

For more details circle NED-273 B1 on enclosed inquiry slip

DUST COLLECTOR
adapts to sanders, saws, grinders

Model DC-1 dust collector attaches to many wood and metal disc sanders, circular and band saws, belt and surface grinders, polishing lathes, and small sand blasters to reduce the dust hazard. It is mounted by means of an adapter, bracket, or side plate. Unit is complete with a ⅓-hp motor, either 220/440-v three-phase or 115/230-v single phase; a large, low-speed impeller; a side plate; and easy-to-empty flameproofed bag. ● **Max Mfg. Co.,** 138 Stockton Ave., San Jose 26, Calif.

For more details circle NED-274 B1 on enclosed inquiry slip

Rugged Performance (ATCO)

Hickory AISLE BLOCKS

Eliminate costly floor replacement! ATCO Aisle Blocks stand up under heavy loads—year after year! The toughest of all domestic woods in standard, uniform, Easy-to-install 4"x6" blocks . . . laminated under hydraulic pressure. Expansion ribs prevent buckling. Thickness from 1½" to 3" or made to your own specifications. Write for full details and names of larger plant users.

Quality Wood Products . . . Since 1889

ANDERSON-TULLY CO.

1242 NORTH SECOND ST. • MEMPHIS, TENNESSEE

For more details circle NED-275 B1 on enclosed inquiry slip

AGAIN . . . Coffing Brings You a New Line of Hoists

The new Safety Pull Aluminum Ratchet and Pawl Lever Hoist is easy to operate —requires minimum handle pull. It may be operated from either side, and the design prevents freezing a load.

Safety has been built into the hoist. It will not ratchet under load if handle is released nor will it free chain. Controls are protected from inadvertent shifting. The bottom stop eliminates any hazard from the handle being released unintentionally. The exclusive safety handle bends to indicate overload.

Strength without excess weight in the new hoist is achieved by a special aluminum alloy which is used in the body and handle.

Available in six models with capacities from ¾ to 6 tons. Ask your distributor or write for Bulletin ADH-86N.

COFFING HOISTS

DUFF-NORTON

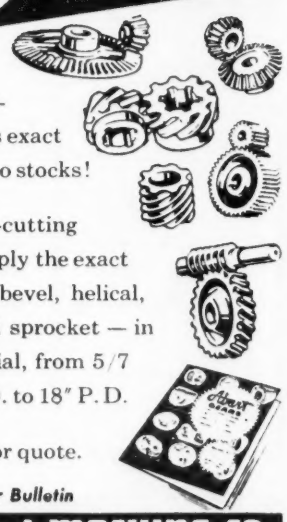
DUFF-NORTON COMPANY

Four Gateway Center • Pittsburgh 22, Pa.

For more details circle NED-276 B1 on enclosed inquiry slip

reliable **ONE SOURCE FOR ALL YOUR GEAR NEEDS**

Abart



Every Abart gear is precision-cut to the customer's exact specifications. We carry no stocks!

Abart has complete gear-cutting facilities to promptly supply the exact gear you want — spiral, bevel, helical, internal, worm, rack and sprocket — in any quantity, any material, from 5/7 D.P. to 96 D.P.—¼" P.D. to 18" P.D.

Send B/P or specs. Ask for quote.

Write for Abart Gear Bulletin

ABART GEAR and MACHINE CO.

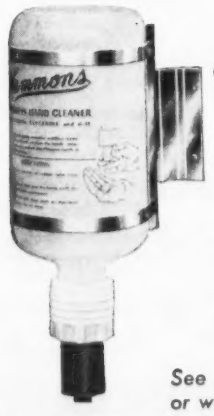
4831 WEST 16th STREET • CHICAGO 50, ILLINOIS

For more details circle NED-277 B1 on enclosed inquiry slip

Dirty Hands CAN COST YOU MONEY!

- In slowdown and time lost from skin infections
- In lost washroom time
- In rejects and poor quality

STOP THIS LOSS WITH **Hammons**



The original LIQUID WATERLESS **SKIN CLEANER**

Removes grease, paint, tar and all industrial soil. Prevents infection, chapping and soreness. Approved and used by more plants, government agencies and offices than any other liquid waterless skin cleaner.

See your sanitary supply distributor or write us NOW for data and prices.

Hammons Products, Inc.
1143 W. Wildwood, Fort Wayne, Ind.

For more details circle NED-278 B1 on enclosed inquiry slip

Finish parts up to 100 times faster with AIR-CUSHIONED vibration

The Pangborn Air-Cushioned Vibratory Finishing Machine — culmination of years of experimentation*— is perfect for cleaning, descaling, radiusing, fine-finishing or burnishing metal and metal alloy parts, many suitable plastic and ceramic items.

- Works up to 100 times faster than conventional methods at lower cost
- Most compact vibrator on the market
- Air cushion suspension gives automatic leveling and amplitude control
- Finishes work impossible to do by other means

In a wide range of sizes. Also auxiliary equipment, media and compounds for every need. Send parts with exact finish specifications, or finished specimen, for sample processing in our laboratory, to: Mr. William E. Brandt, PANGBORN CORPORATION, 2400 Pangborn Blvd., Hagerstown, Md.

*Pat. No. 2,422,786; June 24, 1947

Pangborn OF HAGERSTOWN

For more details circle NED-279 B1 on enclosed inquiry slip

Chip Welds Faster... Easier with NEW Milwaukee ½" Electric Hammer

Chip welds *faster* and do a *better* job of removing weld spatter with MILWAUKEE's new ½" hammer. It's rugged . . . weighs only 6½ lbs., delivers 2800 blows per minute . . . hammer blow easily adjustable to suit the job. *Exclusive* spring-loaded clutch drive absorbs impact shock . . . protects against gear and motor damage . . . doubles gear life. Special "snap-in" lock in chuck prevents chisel from dropping out.

For easier, faster chipping . . . for better appearing, sounder welds — look into the many time-and-work-saving advantages of this new ½" electric hammer — another quality MILWAUKEE tool. Call your MILWAUKEE distributor or write us for free literature.

A0-130

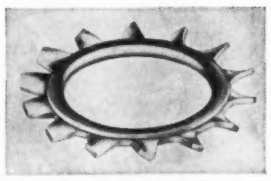
Find Your Nearest Dealer In The Yellow Pages

Look under TOOLS – Electric

MILWAUKEE ELECTRIC TOOL CORP.
5320 W. STATE STREET, MILWAUKEE, WISCONSIN

For more details circle NED-280 B1 on enclosed inquiry slip

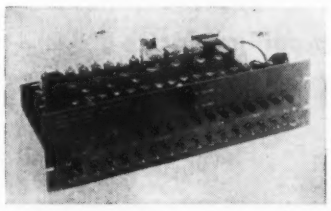
LOCK WASHER has double-strength folded rim



Folded inner rim of this Shakeproof lock washer adapts it to assembly work involving high torque and tensions. It also serves to prevent thread leakage under high pressures and temperatures to 500° F. Added strength results from turning back and crimping the inside diameter to give double thickness at this point. A full line is available to match screw sizes from 5/16 to ⅝ in. • **Illinois Tool Works**, Shakeproof Div., St. Charles Road, Elgin, Ill.

For more details circle NED-281 B1 on enclosed inquiry slip

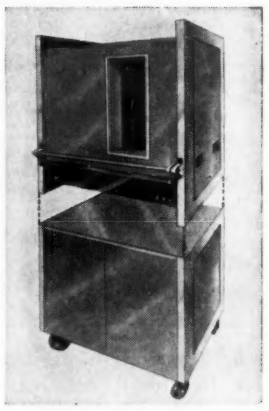
ELECTRONIC BATCH COUNTER in four models, count up to 1024



Built into standard electrical cabinet, Gyra electronic batch counters have normal life expectancy of approximately 1 billion operations. Model DC-30 divides the counts by ten and can be connected in 2, 3, or 4-unit series to increase divisions from 10 to 100, or 10 to 1000. Model BC-40 counts a preset number from 2-16, trips a control relay, then resets to zero. Basically the same as the BC-40, Models BC-50 and BC-60 count any number from 2 to 256 and 2 to 1024, respectively. • **Gyra Electronics Corp.**, Washington & Elm Streets, La Grange, Ill.

For more details circle NED-282 B1 on enclosed inquiry slip

TEMPERATURE TEST CHAMBER 8-cu ft unit is portable



This MC (Module Chamber) unit has an 8-cu ft test cabinet and operates from −100 to 750° F accurate within ±5° F. Heating and cooling rates are variable from 5 to 200° F per minute, depending upon test load. Features include a vertical opening front door, solid-state proportional electronic control, temperature range interchangeability, optional test tray inserts for front door mounting, and optional test shelf inserts for semiconductor or micro-electronic dynamic testing. Unit employs electric coil heaters and either liquid CO_2 vaporization or mechanical refrigeration. • **Statham Instruments, Inc.**, 12401 W. Olympic Blvd., Los Angeles 64, Calif.

For more details circle NED-283 B1 on enclosed inquiry slip

POTDEVIN Semi-Automatic Feed Label Paster

Instant adjustment for labels up to 7½" wide. Operator's hands always free. Speeds-up production with minimum effort. Write for literature.

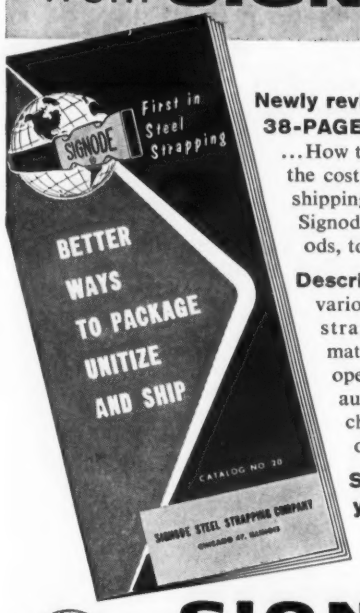
ESTABLISHED IN 1893 POTDEVIN

POTDEVIN MACHINE CO.
273 North Street • Teterboro, N. J.

Designers and manufacturers of equipment for Bag Making, Printing, Coating, Laminating, Gluing and Labeling

For more details circle NED-284 B1 on enclosed inquiry slip

NEW BOOKLET from SIGNODE



Newly revised 38-PAGE EDITION
...How to simplify and reduce the cost of handling, storing, shipping and receiving, with Signode steel strapping methods, tools and equipment.

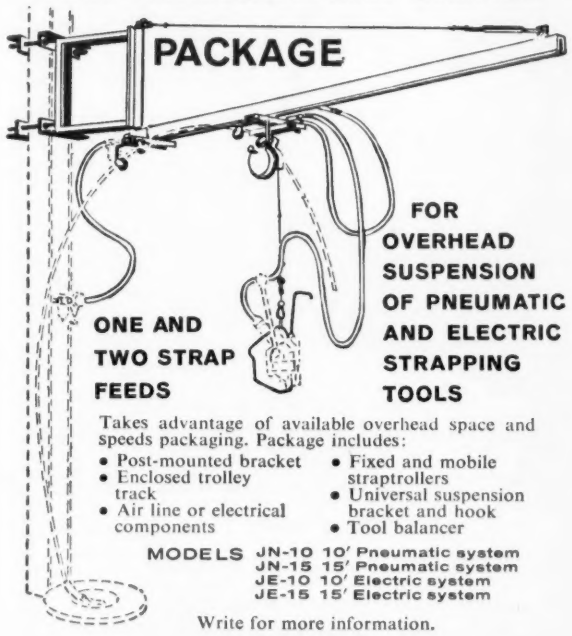
Describes and illustrates various kinds of Signode strapping, seals, pneumatic, electric and hand-operated strapping tools, automatic strapping machines, dispensers, and other accessories.

Send today for your FREE COPY

SIGNODE STEEL STRAPPING CO.
2643 N. Western Avenue, Chicago 47, Illinois
In Canada: Canadian Steel Strapping Co., Ltd.

For more details circle NED-285 B1 on enclosed inquiry slip

NEW SIGNODE JIB CRANE



Takes advantage of available overhead space and speeds packaging. Package includes:

- Post-mounted bracket
- Enclosed trolley track
- Air line or electrical components
- Fixed and mobile straptrollers
- Universal suspension bracket and hook
- Tool balancer

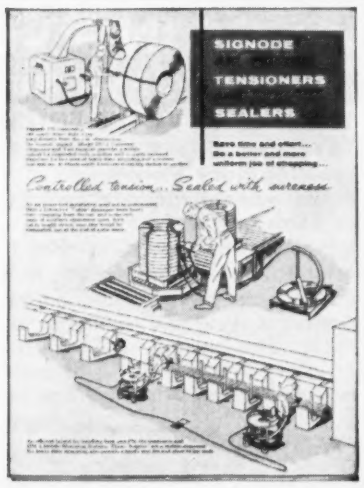
MODELS JN-10 10' Pneumatic system
JN-15 15' Pneumatic system
JE-10 10' Electric system
JE-15 15' Electric system

Write for more information.

SIGNODE STEEL STRAPPING CO.
2643 N. Western Avenue, Chicago 47, Illinois
In Canada: Canadian Steel Strapping Co., Ltd.

For more details circle NED-286 B1 on enclosed inquiry slip

FREE Booklet gives valuable details on Signode air power tensioners and sealers



This new Signode booklet tells how to save time and effort and do a better, more uniform job of steel strapping. It describes many of the ways in which air power strapping tools are serving industry. It gives useful data and descriptions of Signode's complete line of air power tensioners and sealers. Send for your free copy today.

SIGNODE STEEL STRAPPING CO.
2643 N. Western Avenue, Chicago 47, Illinois
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Foreign Subsidiaries and Distributors World-Wide
In Canada: Canadian Steel Strapping Co., Ltd., Montreal • Toronto

For more details circle NED-287 B1 on enclosed inquiry slip

How
"AXIAL ADJUSTMENT"
Reduces Costs, Maintenance, and Wear

The DEMING Co.
206 BROADWAY • SALEM, OHIO
For more details circle NED-288 B1 on enclosed inquiry slip

Alnor®
DEW-POINTER

the best way to make a fast, accurate determination of the dew point of gas atmospheres.

- Check the carbon potential in heat treating furnaces almost instantly at any time during the process.
- Registers the dew point in air used for drying operations.
- Simple to operate, fast, precise

Complete information in Dewpointer bulletin No. 2051

ALNOR INSTRUMENT CO.
Division of
Illinois Testing Laboratories, Inc.
Rm. 529, 420 N. LaSalle St., Chicago 10, Ill.
For more details circle NED-289 B1 on enclosed inquiry slip

GOING CUCKOO
WAITING FOR PRINTS?

THEN END YOUR FRUSTRATION,
SAVE your Valuable Time, STOP Wasting your Money
MAKE your own Whiteprints in Seconds for Pennies

Find out now about BLU-RAY, the finest made (guaranteed for a full year) white printer on the market!

BLU-RAY copies anything written, printed, typed or drawn on any translucent material. Speeds up to 4½ feet per minute; makes 42-inch wide prints, any length. 3 Lamps for more speed; finger-tip speed control; makes sepia reproducibles. Truly pays for itself.

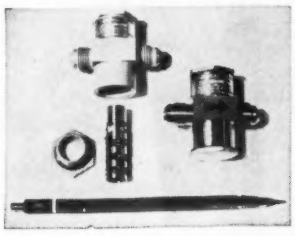
UL and CSA Approved
BLU-RAY
BLU-RAY available on low cost monthly payments

FREE Brochure and Demonstration

TO: REPRODUCTION ENGINEERING CORPORATION
70 Westbrook Road, Essex, Connecticut
☐ Demonstrate Blu-Ray ☐ Rush brochure
Name
Company
Street
City and State

For more details circle NED-290 B1 on enclosed inquiry slip

MINIATURE FLUID FILTER
by-pass opens if filter clogs



In-line ports for straight-through flow and an adjustable by-pass are featured by Model P/N 1850 fluid system filter. The by-pass ball valve in the miniature, 2-oz unit allows full fluid flow in case of filter clogging. It can be adjusted to open through a pressure drop range of 20 to 100 psi. Designed for liquids or gases, unit has a stainless mesh filter which traps particles down to 10 microns. Mesh can be removed from either end of the body. • **Pyrodyne, Inc.,** 11973 San Vicente Blvd., Los Angeles 49, Calif.

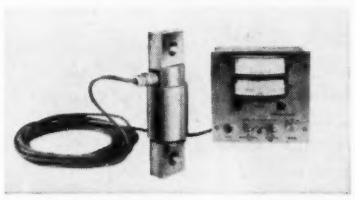
For more details circle NED-291 B1 on enclosed inquiry slip

STORAGE RACK
utilizes floor-to-ceiling space

Brackets and fittings of this floor-to-ceiling Adjusto-Deck storage rack link conventional pipe into sturdy tiers, using ordinary tools. Installation is made without boring holes into floor or ceiling. Rack can be changed from shelf to hanger type, and shelves can be varied in height or depth. Racking permits user to purchase pipe locally and have plywood cut to his exact size requirements. • **Walter Haertel Co.,** 2840 Fourth Ave. S., Minneapolis, Minn.

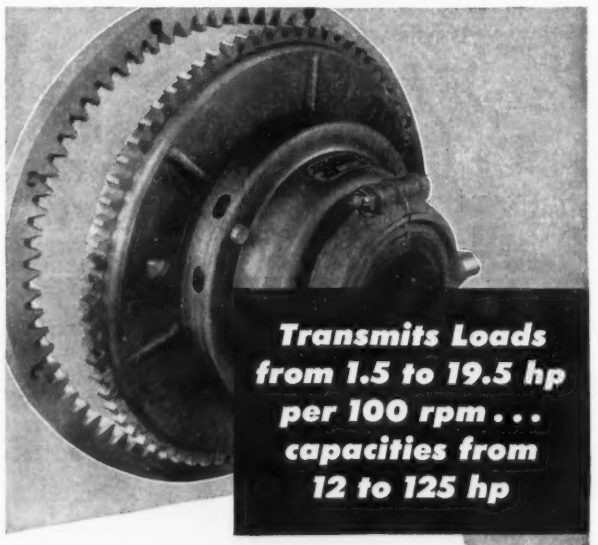
For more details circle NED-292 B1 on enclosed inquiry slip

FORCE METER
measures forces up to 20,000 lb



Standard Transistorized Sidco force meter can measure tension, torsion, and compressive forces accurately within ±2 per cent. Applications include weighing, torque measurements, remote measuring under hazardous conditions, and monitoring loads on equipment and structures. Unit consists of sensing cell, internally calibrated and transistorized indicating meter, connecting cable, and battery case. It measures forces up to 20,000 lb. • **Plastic Applicators, Inc.,** Plastronics Div., Box 7631, Houston 7, Tex.

For more details circle NED-293 B1 on enclosed inquiry slip



Transmits Loads from 1.5 to 19.5 hp per 100 rpm . . . capacities from 12 to 125 hp

Twin Disc Model CL Clutch is a rugged, heavy-duty enclosed unit—small and compact for requirements limited by space—with one, two and three friction plates . . . sizes 5.5" to 11.5". Write Twin Disc *today*, for Bulletin 120-D.

TWIN DISC Clutches

TWIN DISC CLUTCH CO. • Racine, Wisconsin
For more details circle NED-294 B1 on enclosed inquiry slip

TURNS *Every* SHAPE!

REED

This newer Reed-line Chain Wrench is a Plus-tool: It does every job you can do with a conventional pipe wrench—plus—the jobs a conventional pipe wrench can't do! Reed Chain Wrench has faster, ratchet-like action which permits screwing up or unscrewing from either side . . . without removing the wrench from the pipe. Reed Chain Wrench turns every shape as it works easily where an ordinary wrench won't work at all—close to baseboards, in tight corners and between parallel pipe lines. Reed Chain Wrench holds firmly and securely without "play" or crushing.

ASK YOUR SUPPLIER OR WRITE FOR FREE LITERATURE.

REED MANUFACTURING COMPANY
ERIE • PENNSYLVANIA, U. S. A.
For more details circle NED-295 B1 on enclosed inquiry slip

TRIAL SAMPLE
Of World-Famous WHITMORE'S Lubricants NOW IN AEROSOL SPRAY-ON CANS!

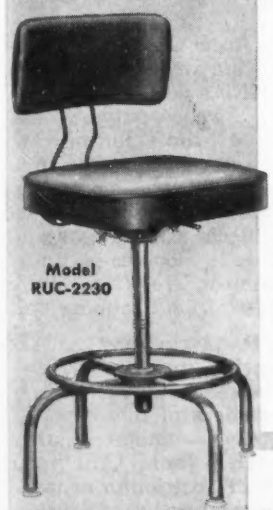
WIRE ROPE SPRAY LUBRICANT

Exclusive formulas for lubricating and protecting wire rope, chain, springs. Penetrates to the core of wire rope minimizing internal friction and increasing usable life up to 300%—special protective qualities absolutely eliminate corrosion—non-gumming qualities reduce "carry-back"—packaged in handy 16 oz. aerosol spray-on containers or in bulk containers—send for a free trial sample.

68 YEARS OF LEADERSHIP
LUBRICATING THE FOLLOWING:
- Open Gears, Dipper Sticks, Cams
- Hydraulic Units, Torque Converters
- Speed Reducers
- Enclosed Gear Cases
- Roller, Ball, and Sleeve Bearings
- Wire Rope and Cable

Est. 1893
THE WHITMORE MANUFACTURING CO.
LUBRICATING ENGINEERS
CLEVELAND 4, OHIO • VULCAN 3-7272
For more details circle NED-296 B1 on enclosed inquiry slip

COMFORTABLE, UPHOLSTERED, ADJUSTABLE DRAFTING CHAIRS



- 2 inch upholstered seat
- Full swivel seat
- 2-way adjustable backrest
- No soiled hands when adjusting seat
- Three sizes: 20" to 28"—24" to 32"—28" to 36"
- Gray, green, beige or brown finish

Also available with round metal or wood seat; or formed plywood or solid hardwood saddle seat.

FREE TRIAL
Use an AJUSTRITE chair or stool for 30 days without obligation. Prove to yourself the many advantages AJUSTRITE offers in comfort, utility and economy. Write today—we'll do the rest.

10 YEAR GUARANTEE

32 Models for Factories • Schools • Laboratories • Hospitals • Offices

JUST LIFT SEAT TO DESIRED HEIGHT

AJUSTRITE CHAIRS AND STOOLS
AJUSTO EQUIPMENT CO.
Bowling Green, Ohio
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FREE COPY

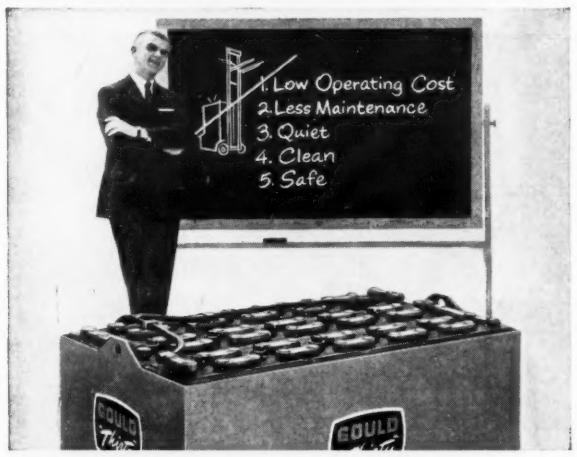
NEW VARIABLE SPEED CATALOG

Here's all you have to know about fhp variable speed. Explains the Zero-Max principle with pictures and diagrams of uses. Describes over 30 basic models and types of Zero-Max drives which deliver 0 to 1200 rpm and up to 450 in. lbs. torque.

WRITE FOR YOUR FREE COPY TODAY!

ZERO-MAX The ZERO-MAX Company
2855 Harriet Ave. S., Minneapolis 8, Minn. • TAylor 7-5521

For more details circle NED-298 B1 on enclosed inquiry slip



Why users prefer electric trucks powered by Gould Batteries

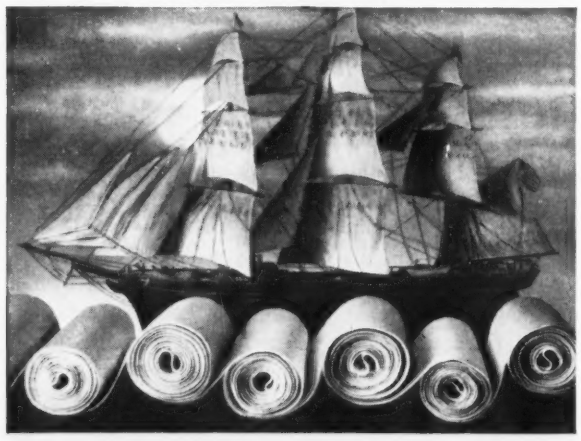
Lower Operating Costs—electric trucks save on maintenance, power, depreciation; their overall cost per ton-mile is less than half of other trucks. *Less Maintenance*—electric trucks have simpler construction, less moving parts. *Quiet, Clean, and Safe*—electric trucks reduce noise, no exhaust, can be used in dangerous atmospheres.

Electric truck users generally agree, too, on Gould Batteries for longer life. With the vital new Silconic Plate, Gould Batteries offer up to 25% longer life.

Write for "Why We Use Battery-Electric Industrial Trucks." Gould-National Batteries, Inc., Trenton, New Jersey. In Canada, write to Gould-National Batteries of Canada, Ltd., 1819 Yonge Street, Toronto, Ontario.

More Power to you from GOULD

For more details circle NED-299 B1 on enclosed inquiry slip



SETTING SAIL INTO THE SEA OF SYNTHETIC FELTS?

...Let Troyfelt help you plot your course

TROY's only business is in the synthetics – Dacron®, Orlon® and combinations. Moreover, TROY specializes in non-woven felts, having pioneered in the development of the non-woven process.

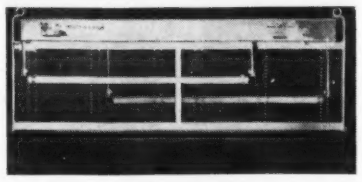
What is the advantage of TROYFELT? Simply this: no binder is used. Eliminating chemical and fiber binders results in *far greater design versatility*. We can give you outstanding abrasion, heat and chemical resistance. Higher insulation. Greater filtering ability. Just the thickness, density, permeability or weight you want. You tell us what properties you're looking for – and in most cases we can match your needs precisely.

See how you may improve your present products . . . solve an operating problem . . . or even come up with an entirely new product. Details . . . just drop us a note. We'll send our most recent technical bulletin and samples of various TROYFELT blends.

TROYFELT ...*by the pioneers in non-woven synthetic felts*
INDUSTRIAL PRODUCTS DIVISION • TROY BLANKET MILLS
200 Madison Avenue • New York 16, New York

For more details circle NED-300 B1 on enclosed inquiry slip

FLYING INSECT ELECTROCUTOR
grid type unit offered in 16 models

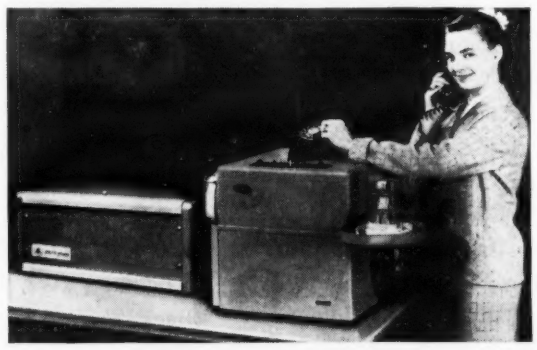


Effective control of flying insects in and around plants, institutions, and commercial establishments is achieved with planned installation of the Insect-O-Cutor, a grid type device which attracts and electrocutes insects upon contact. The device is offered in 16 different models for virtually custom installation, depending upon the situation. Units are placed in locations of high insect traffic, such as windows, doorways, food preparation areas, or where air currents bring insects into buildings. They are weatherproof and practically maintenance free. The nocturnal unit shown has two black lights which attract most insects over and above other light sources. Power consumption is approximately that of a 500-w bulb. • **Gardner International Corp.**, 208-209 Pompano Beach Professional Bldg., Pompano Beach, Fla.

For more details circle NED-301 B1 on enclosed inquiry slip

BUSINESS COMMUNICATIONS UNIT
8-channel code transmitter-receiver uses long distance telephone network

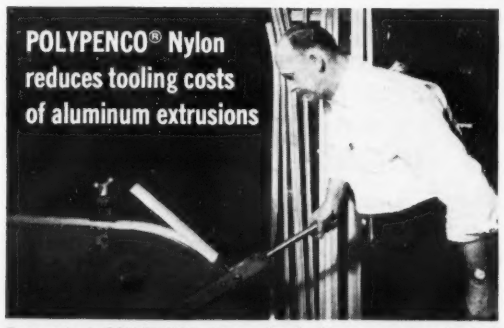
Fast, economical means of communicating business data between branches, plants, and the home office is made possible by the Teledata eight-channel code



transmitter-receiver which utilizes the toll message network of long-distance telephone lines in conjunction with the Bell Data-Phone 100. Customer only pays for the time the lines are in use. Speeds of 425 codes per minute are obtainable, and a parity check insures accuracy of code.

Message tapes are punched on data processing machines and fed through the Teledata reader component. Contact is made with receiving station by dialing or calling operator, and transmission begins once both parties connect into telephone line. Receiving Teledata unit accepts coded data and punches it into eight-channel tape which can then be used to reproduce messages, orders, and other documents on a Flexowriter or other tape-operated equipment. Units can be either leased or purchased. • **Friden, Inc.**, 1 Leighton Ave., Rochester 2, N. Y.

For more details circle NED-302 B1 on enclosed inquiry slip



Economical POLYPENCO Nylon Stock Shapes replaced steel and bronze mandrels for pre-forming aluminum awnings . . . at considerable savings.

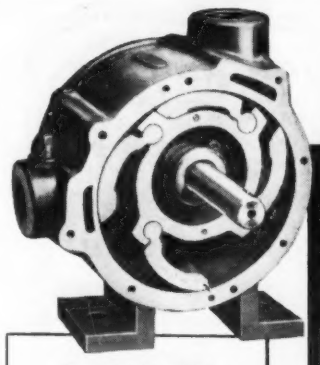
Steel mandrels eventually took a set while bronze picked up aluminum and caused galling. Both problems were solved with tooling made from POLYPENCO Nylon 101.

Tough, wear resistant nylon will not gall or scratch mating surfaces. Low surface friction without lubrication, resilience and ease of fabrication give you longer part life, improved quality and lower costs.

POLYPENCO Nylon Stock Shapes (600 sizes in more than 14 nylon formulations) are available from stock in all major cities. For details call your nearby Polymer representative.

POLYPENCO INDUSTRIAL PLASTICS
The Polymer Corporation of Penna.
Reading, Pa.

For more details circle NED-303 B1 on enclosed inquiry slip



WEAR-FREE!
CARE-FREE!
REPAIR-FREE!

LEIMAN AIR PUMPS with the Exclusive HINGED VANE DESIGN

Practically take care of themselves

Self-honing surfaces. Curved cast iron vanes rotating against cast iron cylinder walls hone wear surfaces to a hard, glassy smoothness. Provides continuous leak-proof seal and low-friction operation.

Self-renewing vanes. Cast iron vanes take up their own negligible wear. No composition tips to wear and renew. Provides years of new-pump efficiency.

Self-oiling. Leiman Automatic Oiler feeds the right amount of oil while running—needs no manual regulation—prevents over-oiling—reduces possibility of oil-staining.

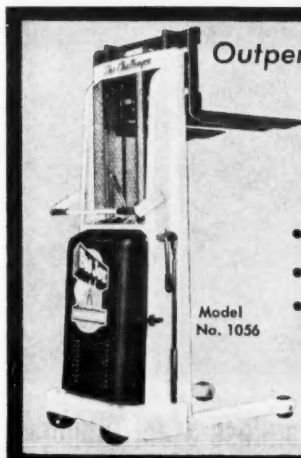
The simplified Leiman hinged vane design provides larger air space, higher capacity—permits use of smaller pumps, slower speeds, lower horsepower. Every pump rigidly test-run before shipment. Specify Leiman Air Pumps for your vacuum, suction or pressure operations for lifetime dependability. Consult Leiman engineers on any application.

Vacuum to 29.9" Hg.
Pressure to 20 p.s.i.g.
Volume to 162 c.f.m.

WRITE FOR LATEST CATALOG and Application Book showing many how-to-do-it blueprints.

LEIMAN BROS., INC.
167 Christie St., Newark 5, N. J.
Established 1889

For more details circle NED-304 B1 on enclosed inquiry slip



Outperforms All Others in its Class

the Challenger

- Capacity 1,500 lbs.
- 57-in. lifting height
- Synchronized 12-volt heavy duty system

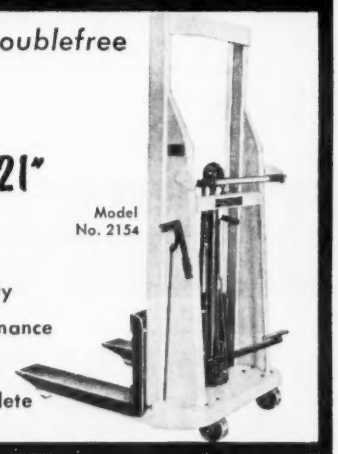
Model No. 1056

$397.50 complete

BIG JOE VALUE

A Rugged, Troublefree Dollar-Saver

the "Pedalift 21"



- Effortless lifting to 54-in. height
- 1,000 lb. capacity
- Carefree maintenance

Model No. 2154

$199 complete

BIG JOE QUALITY

An In-Between-Handling Specialist

the "Big Joe 299"

- 57-in. lifting height
- Battery operated hydraulic system
- Full bearing control

$299 complete

Model No. 9957

over 80 other proven models

BIG JOE MANUFACTURING COMPANY
Vernon Blvd.
Wisconsin Dells, Wisconsin

For more details circle NED-305 B1 on enclosed inquiry slip

INSTALLATION AS FAST

AS WITH REGULAR FLEXIBLE CONDUIT

PROTECTION AS SURE

AS RIGID CONDUIT

LIQUATITE®

Extruded Polyvinyl Jacket Molded to Galvanized Flexible Conduit

Complete protection against any and all contamination—impervious to water, oils, chemicals, corrosive atmospheres. Installed in minutes. No more "downtime" due to wiring shorts or burn-outs, no more periodic wiring replacements.

Type LT JIC Approved
Type LA Underwriters' Approved

Write for free sample, costs and name of Distributor nearest you.

ELECTRI-FLEX COMPANY
P. O. BOX 128-H • ROSELLE, ILLINOIS

For more details circle NED-306 B1 on enclosed inquiry slip

ELECTRUNITE Stainless Steel Tubing
SAVES TAXPAYER DOLLARS...

Grumman Aircraft Engineering Corporation reduced scrap loss by 50%, fabrication time by 30%, in the production of the exhaust system of the Grumman S2F Tracker—thus saving taxpayer dollars.

Republic ELECTRUNITE® Stainless Steel Tubing can save you time and money, too! Write for data.

REPUBLIC STEEL
STEEL AND TUBES DIVISION
232 East 131st St. • Cleveland 8, Ohio

For more details circle NED-307 B1 on enclosed inquiry slip

TRANSFER FUEL FASTER!

PATENT 2,843,051

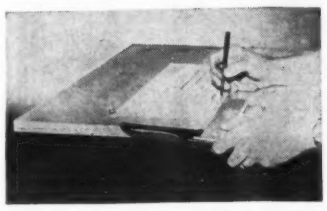
- Pumps on forward and back strokes
- Delivers up to 20 gpm with up to 20-foot lift
- Vacuum breaker prevents siphonage
- No foot valve
- Models for farms, garages, factories, construction jobs
- Available with automatic nozzle

JOHN WOOD COMPANY
BENNETT PUMP DIVISION • MUSKEGON, MICHIGAN
IN CANADA: JOHN WOOD COMPANY LIMITED
Toronto • Montreal • Winnipeg • Vancouver

QUALITY PRODUCTS JOHN WOOD SINCE 1861

For more details circle NED-308 B1 on enclosed inquiry slip

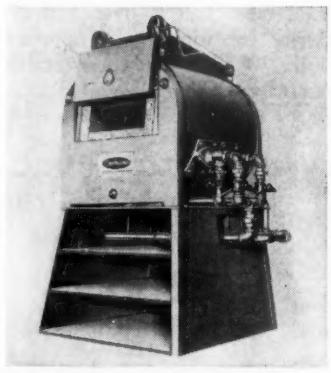
DRAWING BOARDS
aluminum edge resists warping



Select lumber is used in No. 710-M drawing boards, all of which have aluminum edges for accuracy in drawing with T-squares, long service life, and resistance to warping. They are made in 12 x 17, 16 x 21, 18 x 24, 20 x 26, and 23 x 31-in. sizes. • **Anco Wood Specialties, Inc.**, 71-08 80th St., Glendale 27, L. I., N. Y.

For more details circle NED-309 B1 on enclosed inquiry slip

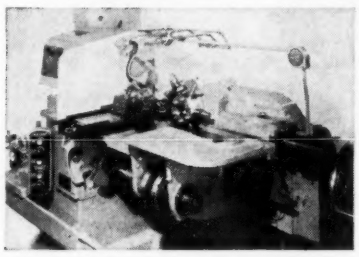
HEAT TREATING FURNACE
has wide temperature range



Available for gas-fired heating in three standard sizes, this Sunbeam heat treating furnace has a 300 to 2400° F heating range. It can be used for annealing, pack carburizing, hardening, normalizing, preheating, stress relieving, and tempering. Both ferrous and nonferrous alloys may be accurately heat treated, because burners have a 95 per cent turn-down ratio for close control. Work area sizes range from 12 x 8 x 4 in. and 24 x 15 x 9 in. • **Sunbeam Equipment Corp.**, 180 Mercer St., Meadville, Pa.

For more details circle NED-310 B1 on enclosed inquiry slip

AUTOMATIC CHUCKING MACHINE
handles irregular-shaped parts

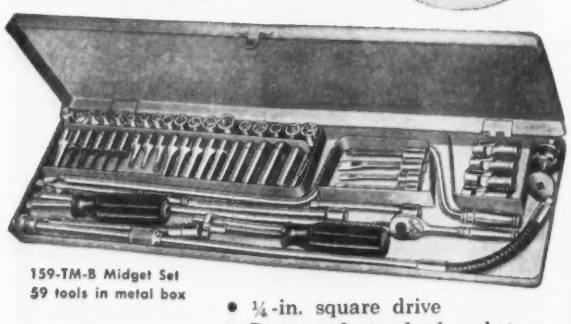


Using a Skinner air chuck mounted on a special spindle, this No. 2 automatic chucking machine can handle irregular-shaped forgings, castings, extrusions, and cold-headed parts. Chuck has 3-in. capacity and 4-in. swing over cross slides. Spindle is driven through gears and chains by 7½-hp motor through 15 reversal speeds up to 2095 rpm. Two higher speeds up to 2905 rpm are available for nonreversing applications. Both automatic and manual chucking controls are standard, as are the three-jaw chuck, six-station turret, two cross slides, and a spindle brake. A third slide is optional. Turning tool for diameters over 1¼ in. up to 4 in. is available. • **Brown & Sharpe Mfg. Co.**, Providence 1, R. I.

For more details circle NED-311 B1 on enclosed inquiry slip

Snap-on

MIDGETS SPEED TINY ASSEMBLY JOBS



159-TM-B Midget Set
59 tools in metal box

- ¼-in. square drive
- Deep and standard sockets ⅛ in. to ½ in.
- Sockets machined to close tolerances for non-slip fit on tiny nuts and bolts
- Thin, tough driver bits fit well into narrow screw recesses—avoid gouging screw heads

Order now from your SNAP-ON representative.

FOR ALL INDUSTRY
SNAP-ON TOOLS
8110-B 28TH AVENUE • KENOSHA, WISCONSIN

For more details circle NED-312 B1 on enclosed inquiry slip

Webster DIRECT READING
HYDRAULIC TYPE
FORCE GAUGES

Measures electrode pressure on spot welders and roll welders. Makes compressive tests on forming, dimpling and upsetting operations. Also useful for weighing. Insulated contact surface prevents damage if welder is accidently fired. Easy setups, no delicate mechanisms, 5 ranges: 0-1000, 6000, 10,000, 20,000, 40,000 lbs. 3½" diameter gauge with accuracy to 1%. Reads directly in pounds—no conversion scales. Write for details.

Webster INSTRUMENT, INC.
Dept. N, 11856 Mississippi Ave., Los Angeles 25, California

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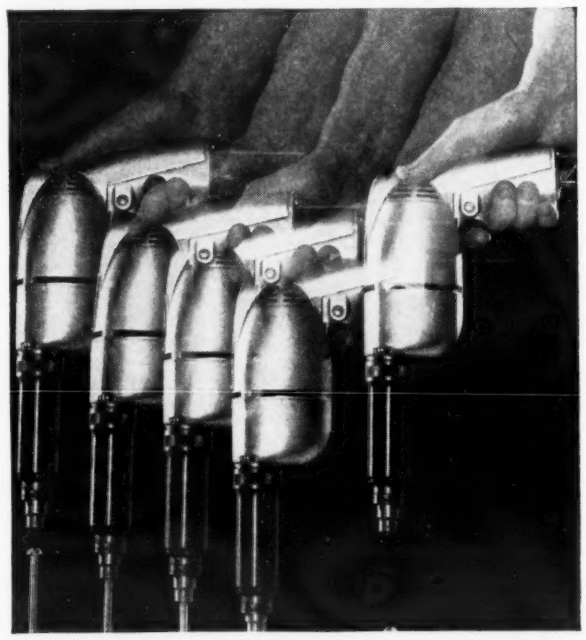


EXACT TENSION...
500 SCREWS OR 500,000!

New Skil Anti-Ratcheting Driver rules out rejects

Set the torque on this driver for *any* assembly job and it'll stop driving the instant exact tension is reached.

A half million drives later you still get exact tension every time—never a stripped thread or damaged part, never a chance of costly rejects. And since torque control is not dependent on operator's skill, even beginners get the same fast, uniform results as experienced workers.

Drivers simply don't come any faster, any quieter, any better! Your Skil distributor has the proof. Ask him for a demonstration of either Model 235 (standard) or 272 (Reversing). He's listed in the Yellow Pages under "Tools-Electric". Or write: Skil Corporation, Dept. 119B, 5033 Elston Avenue, Chicago 30, Illinois. In Canada: 3601 Dundas Street West, Toronto 9, Ontario.

SKIL ...and SKILSAW POWER TOOLS

For more details circle NED-314 B1 on enclosed inquiry slip

Seiberling
INDUSTRIAL GLOVES

Longer wear in every pair! Available in various sizes, gauges, lengths, colors and surface finishes. Natural rubber or genuine Dupont neoprene latex. Contoured fingers for more comfort, better fit.

EXCLUSIVE PATENTED
FIRMGRIP®
SAFETY GRIP MOULDED INTO FINGERS AND PALM

SEND FOR CATALOG NO. G-2 of complete glove line

FREE TEST OFFER! Write us on your firm's letterhead for sample gloves for test purposes.

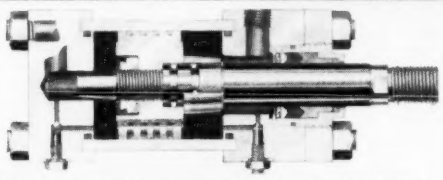
SEIBERLING LATEX PRODUCTS
New Bremen, Ohio

For more details circle NED-315 B1 on enclosed inquiry slip

EXCLUSIVE WITH CARTER

Rod Scraper Plus Rod Wiper in Cartridge Rod Bearing! 100% J.I.C. INTERCHANGEABLE CYLINDERS

SQUARELINE 2000-3000 PSI HYDRAULIC



MANY ENGINEERING IMPROVEMENTS! LOWER PRICES!

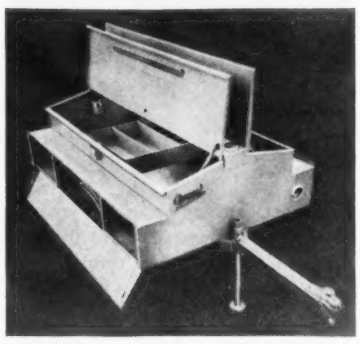
- 1½ to 12" Bore Sizes
- Complete Range of Mounting Styles
- True Quick-Change Cartridge
- Self-aligning Truly Concentric Cushions
- Extra Heavy Construction
- Precision Engineered

• ASK FOR SQUARELINE BULLETIN 3000 or complete bound file. Air and hydraulic cylinders. Rotaries, clamp cylinders, air valves, and the new SQUARELINE. Complete details and prices. SEND TODAY.

CARTER CONTROLS INC.
2876 Bernice Rd. Lansing, Ill. (Chicago Suburb)
Phones: BAyport 1-7186 (Chicago) GRanite 4-3305 (Lansing)
TELETYPE LSNG, ILL. 1119

For more details circle NED-316 B1 on enclosed inquiry slip

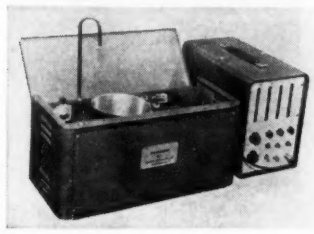
TOOL TRAILERS
in 4, 5, 6, and 8-ft models



Tool Toter and Tool Master tool trailers are available in 4, 5, 6, and 8-ft models. Tool Toters have strong, lightweight, yet waterproof compartmented construction with drop leg for parking. Deluxe Tool Master units feature sliding trays, full length work shelves, cylinder locks, and blinker lights. • **Aeroil Products Co.**, 69 Wesley St., South Hackensack, N. J.

For more details circle NED-318 B1 on enclosed inquiry slip

FLOW METER CALIBRATOR
checks accuracy of liquid meters



Orifice, rotameter, and turbine type liquid flow meters can be compared, calibrated, and checked for accuracy with this flow rate comparator. Usable over a flow rate of 0 to 800 lb per hour, unit includes a balance scale, weighing container, magnetic switch, selector valve, and plumbing. It requires an external electronic counter as a time-readout device. Operation involves electronically measuring the time for fluid flow to balance a known added weight, and accuracy is with ±0.25 per cent. • **Simmonds Precision Products, Inc.**, 105 White Plains Rd., Tarrytown, N. Y.

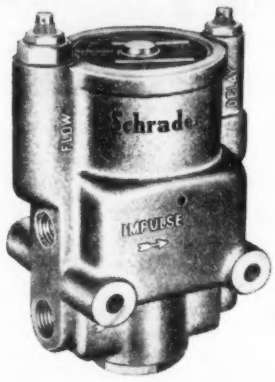
For more details circle NED-319 B1 on enclosed inquiry slip

CRANE & HOIST HOOK
engages and releases automatically

Self-operated Auto-Bi-Hook automatically engages bars, trunnions, loop cradles, or chains. It has two or more plate hooks which swing side by side on the pin of a shackle mounted on a crane or hoist. A lower cam spreads the plates to latch under the load. An upper cam, when engaged by lifting the load or lowering the hook, spreads the hook plates open. A dashpot delays the closing of the hooks while they are separated from the load. Three available models have 4½, 4¾, and 6½-ton capacities. • **Bi-Rail Co.**, 20050 Livernois Ave., Detroit 21, Mich.

For more details circle NED-320 B1 on enclosed inquiry slip

NEW!
SCHRADER 3-WAY TIMED DELAYED BLAST VALVE



No. 830 Schrader Delayed Blast Valve

Use it for timed sequencing of cylinder...to provide and control reciprocation of cylinders without cams and with pre-set dwell at each end.

Can be used with air-charged timing chamber to control flow of oil, water, liquids.

Set time before flow starts, after charging valve, by adjusting "Delay" needle valve.

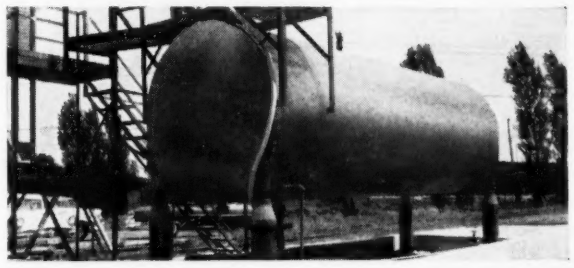
Control time of flow from discharge port by adjusting "Flow" needle valve.

SEND FOR DESCRIPTIVE DATA ON THIS NEWEST MEMBER OF THE SCHRADER FAMILY OF AIR VALVES, CYLINDERS AND ACCESSORIES

Schrader®
A. SCHRADER'S SON
Division of Scovill Manufacturing Co., Inc.
459 Vanderbilt Ave., Brooklyn 38, N. Y.

For more details circle NED-322 B1 on enclosed inquiry slip

GLASTEEL TANKS
solve problems of storing sticky, corrosive, or ultra-pure fluids



If your product is sticky, Glasteel (glass inside, steel outside) helps solve the cleaning problem. Very little adheres to the smooth, hard, non-porous surface of a Pfaudler® Glasteel tank.

With most corrosives, Glasteel ends the need for frequent tank replacement. Store all acids (except HF) and most alkalies with confidence.

If your product is *ultra pure*, it will not pick up impurities from Glasteel. Glass is inert. Glasteel protects purity, flavor, color and aroma.

And Glasteel storage is a *money-saver*. In sizes over 10,000 gallons, these tanks cost less than stainless steel. With corrosives, any size tank saves you money because of the long service life.

BULLETIN 975 provides details. Free. Write to our Pfaudler Division, NED-21, Rochester 3, N. Y.

PFAUDLER PERMUTIT INC.
Specialists in FLUIDICS...the science of fluid processes

For more details circle NED-323 B1 on enclosed inquiry slip

GOODYEAR

Gives wear the air!

Pneumatic Industrial Tires by Goodyear carry key cargoes with care, yet stand up to punishing wear. Here's why:

1. Extra-tough tread rubber resists wear, insures long, dependable service.
2. Sidewall strength plus smooth ride assures safe haulage of "special handling" loads.
3. Stand-out stamina fights impact, bruising, with exclusive Triple-Tempered 3-T Cord.

Check your Goodyear dealer for full facts on the complete line of Goodyear Pneumatic Industrial Tires. Or write Goodyear, Industrial Tire Sales, Akron 16, Ohio.

Lots of good things come from
GOODYEAR
More tons are hauled on Goodyear truck tires than on any other kind

For more details circle NED-317 B1 on enclosed inquiry slip

GOODYEAR

Steel-armored against punctures!

For the tough jobs use STEEL GUARD—rugged new pneumatic tire with built-in puncture-barrier. Here's why:

1. Heavy steel cables crisscrossed beneath tread make tire virtually punctureproof.
2. Thick, sturdy tread absorbs punishing blows, insures better traction.
3. Pneumatic design means smooth ride for cargo and driver—plus stand-out stability and flotation.

Ask your Goodyear dealer about STEEL GUARD—it stands up even in foundry and brickyard service! Or write Goodyear, Industrial Tire Sales, Akron 16, Ohio.

Lots of good things come from
GOODYEAR
More tons are hauled on Goodyear truck tires than on any other kind
Steel Guard—T. M. The Goodyear Tire & Rubber Company, Akron, Ohio

For more details circle NED-321 B1 on enclosed inquiry slip

GOODYEAR

4 Times the Life!

New Neothane Solid Industrial Tires by Goodyear outlast other tires up to 4 times—even when lugging 2 to 4 times the load normally carried on regular rubber tires. Here's why:

1. Neothane—Goodyear's polyurethane synthetic—wears like steel, rolls like rubber.
2. Rolls over metal chips, splinters, broken glass—with minimum cutting, gouging.
3. Won't swell or turn spongy after wading through water, grease, oil, solvents or acids.

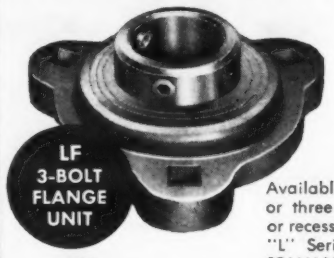
Plus outstanding performance on heaviest loads to take rough going without damaging floors. See your Goodyear dealer for facts on new Neothane Industrial Tires or write Goodyear, Industrial Tire Sales, Akron 16, Ohio.

Lots of good things come from
GOODYEAR
More tons are hauled on Goodyear truck tires than on any other kind
Neothane—T. M. The Goodyear Tire & Rubber Company, Akron, Ohio

For more details circle NED-324 B1 on enclosed inquiry slip

SEALMASTER® "L" SERIES

A HIGH QUALITY LINE OF MALLEABLE HOUSED BEARING UNITS AND BEARINGS AT A COST THAT IS WARRANTED ON YOUR MACHINE!



- SELF-ALIGNING
- ONE-PIECE MALLEABLE HOUSING
- PERMANENTLY SEALED
- EASY RACE TO SHAFT LOCK

Available in pillow blocks and two or three bolt flange units for flush or recessed mountings. All units in the "L" Series available with the new SEALMASTER contact type seal.

LP PILLOW BLOCK LFT FLANGE UNIT LF FLANGE UNIT

WRITE FOR BULLETIN 359

SEALMASTER BEARINGS
A DIVISION OF
STEPHENS-ADAMSON MFG. CO.
12 RIDGEWAY AVENUE
AURORA, ILLINOIS
Plants Located in: Los Angeles, Calif. Clarksdale, Miss • Belleville, Ontario

SEALMASTER® BALL BEARING UNITS

For more details circle NED-325 B1 on enclosed inquiry slip

JACKETED PIPE and FITTINGS

H&B standard jacketed equipment gives complete jacketing of the product line. Special jigs enable H&B to insure uniformity of the jacketed area. Fittings and valves are available in cast or welded construction in all alloys including stainless steel. All H&B jacketed equipment is hydrostatically tested to 450 p.s.i. H&B welded steel jacketed fittings are ideally suited for process piping with pressures reaching 300 p.s.i. and temperatures up to 750°F.

For more information send for bulletin J-57.

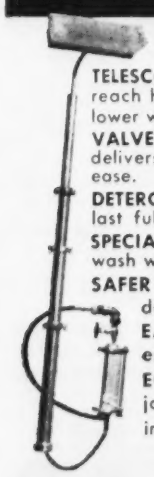
HETHERINGTON & BERNER INC.

A Wholly Owned Subsidiary of American Hoist & Derrick Company
701 KENTUCKY AVENUE • INDIANAPOLIS 7, IND.

For more details circle NED-326 B1 on enclosed inquiry slip

WASH WINDOWS IN HALF THE TIME
• SAFER . . .
• EASIER . . .
more ECONOMICALLY . . .

with the TUCKER "HIGH" WINDOW WASHER



Includes these
EASY TO OPERATE features

TELESCOPIC HANDLES
reach heights of 66 feet, reduce into sections for lower windows.

VALVE CONTROLLED DISPENSER
delivers detergent or rinse water with fingertip ease.

DETERGENT TABLETS
last full half day of continuous washing.

SPECIAL NYLON BRUSHES
wash windows, edges and corners in one swipe.

SAFER . . . eliminates danger of costly accidents due to falling ladders.

EASIER . . . eliminates time consuming erection of scaffolding.

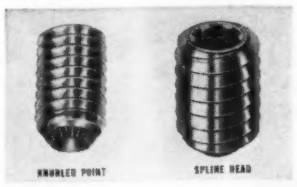
ECONOMICAL . . . one man now does the job it formerly took two men to do . . . and in half the time!

FOR COMPLETE DETAILS WITH FREE TRIAL OFFER, ADDRESS DEPT. C-62

TUCKER MANUFACTURING CO.
Cedar Rapids, Iowa

For more details circle NED-327 B1 on enclosed inquiry slip

SOCKET SET SCREWS
knurled point and spline head types



Blue Devil line of socket set screws has been augmented with the addition of screws with knurled points, available in various sizes in any quantity. Also offered are spline head set screws in sizes from No. 4 to 3/8 in. with minimum orders of 5000 in one size. • **Safety Socket Screw Co.**, 6501 N. Avondale Ave., Chicago 31, Ill.

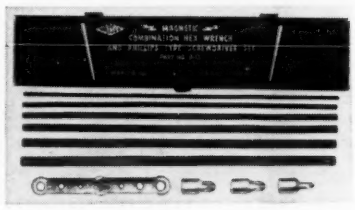
For more details circle NED-328 B1 on enclosed inquiry slip

VISCOSITY TEST SYSTEM
measures in any of eight ranges

Sensing element that operates at temperatures to 650° F and pressures to 1000 psi is incorporated in the Model 898 Lab-Vis viscosity measurement and control system for petroleum, polymer, and medical research. Any of eight viscosity ranges are selected with a switch. Measurements are made either in beakers or in circulating systems. A strip chart recorder makes a continuous record of all measurements. Three types of sensing elements offered are a 10½-in. long laboratory type for top-of-bench work, a pipeline probe encased in an explosionproof junction box with a ¾-in. NPT fitting, and a medical probe shaped for use in a constant temperature bath. The 21 x 21 x 30½-in. unit is supplied with recorder, calibrated chart paper, 6 ft of probe cable, choice of probes, and a line voltage regulator. Operation is on 115 v ac. • **Bendix Corp.**, Cincinnati Div., 3130 Wasson Rd., Cincinnati 8, Ohio.

For more details circle NED-329 B1 on enclosed inquiry slip

MAGNETIC HEX WRENCH SET
includes Phillips screwdriver bits



This combination hex wrench and Phillips screwdriver set facilitates working in hard-to-reach places. Included are six extra long hex wrenches of chrome vanadium steel in sizes from 3/32 to ¼ in. They are magnetized for holding the fastener or recovering a dropped set screw. Standard No. 1, 2, and 3 hardened Phillips screwdriver tips snap on either end of the ¼-in. wrench. A single master handle slides any place along the 9-in. long wrenches. Set is packaged in a hinged steel box. • **Watsco Inc.**, 1020 E. 15th St., Hialeah, Fla.

For more details circle NED-330 B1 on enclosed inquiry slip

WHAM and there goes spindle accuracy

Our illustrated "character" is about to ruin spindle accuracy with a hammer and drift key that cost a lot of money to get in the first place. Modern P.D.Q. tooling can eliminate this abuse . . . and save time and money as well. A quick one-sixth turn of the holder nut releases the adapter and you're ready for the next operation . . . it's as easy as that. How about those machine tools in *your* plant? Get the facts on P.D.Q. tooling . . . Write for complete information.

Representatives in principal cities.

PORTAGE Double-Quick, Inc.
1043 SWEITZER AVENUE • AKRON 11, OHIO

For more details circle NED-331 B1 on enclosed inquiry slip

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PRECISION INSTRUMENT PARTS and ASSOCIATED COMPONENTS
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Send for your FREE copy today.

GEARS • SHAFTS • COLLARS
CLUTCHES • BEARINGS
SPEED REDUCERS
DIFFERENTIALS
and all other precision parts

NEW— From PIC....
PRECISION **Spiroid gears**
Ask for new Catalog #22.

PIC DESIGN CORP.
Subsidiary of BENRUS WATCH COMPANY, Inc.
481 ATLANTIC AVE. · EAST ROCKAWAY, L. I., N. Y.

For more details circle NED-332 B1 on enclosed inquiry slip

ALVA ALLEN *Heavy Duty* PUNCH PRESSES

Model BT-25
25 Ton—$1097.50
less motor—fob

Powerful • Dependable
Economical
Fully Guaranteed
Moderate in Price

Hundreds of Different Model Combinations 1 to 25 ton capacities

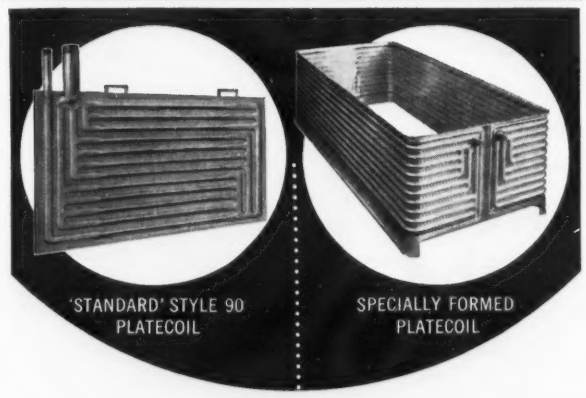
See your Supply Dealer or write for Catalog giving complete information, specifications and prices on our line of Heavy Duty Punch Presses.

Thousands in Use the World Over

See the yellow pages of your telephone directory for local distributor.

ALVA ALLEN INDUSTRIES, Dept. NED Clinton, Mo. • Tel. TUrner 5-3331

For more details circle NED-333 B1 on enclosed inquiry slip



PLATECOIL®

boosts efficiency in all kinds of tank and process heating and cooling — saves on engineering, fabrication and maintenance

PLATECOIL can be engineered and factory-fabricated to exact specifications. Available in a wide range of standard sizes, specially formed or fabricated units, and most weldable metals. Operating pressures up to 250 psig.

WRITE FOR NEW BULLETIN P57

PLATECOIL DIVISION, TRANTER MANUFACTURING, inc.
Lansing 9, Michigan

For more details circle NED-334 B1 on enclosed inquiry slip

New Engineering Manual

On Quieter, Higher HP Cooling Tower Drives

IT'S COMPLETE • IT'S FREE

This colorful 8-page technical guidebook is a must for all designers, engineers, and operating men concerned with quiet, efficient cooling tower operation.

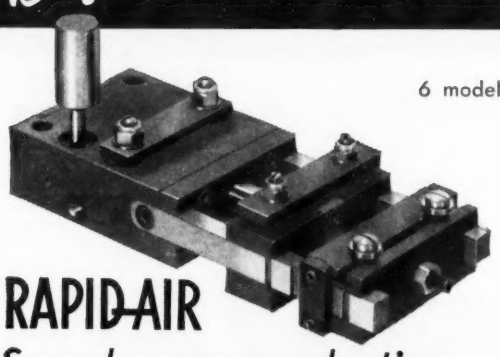
Cleveland Type-CU Worm Gear Speed Reducers are widely used to drive induced draft fans in catalytic cracking plants and public utilities for cooling large volumes of process water. Their quiet operation makes them ideal for commercial air conditioning systems.

Included in Bulletin 135-S are rating tables, full dimensional information and lubricating data. Write today for your personal copy.

CLEVELAND WORM & GEAR DIVISION
Eaton Manufacturing Company
3283 East 80th Street • Cleveland 4, Ohio

For more details circle NED-335 B1 on enclosed inquiry slip

NEW! PUNCH PRESS FEEDS



6 models

RAPID-AIR

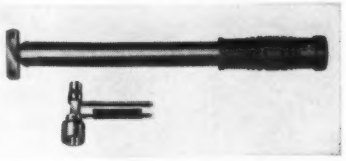
Speeds your production
Compact—Fast—Accurate!

Rapid-Air press feeds are self-contained air operated, high speed units for feeding coil stock up to 6" wide. Easy to set up, unit mounts on die set or bolster. Write for bulletin.

MECHANICAL TOOL & ENGINEERING CO.
2323 TWENTY-THIRD AVENUE, ROCKFORD, ILLINOIS

For more details circle NED-336 B1 on enclosed inquiry slip

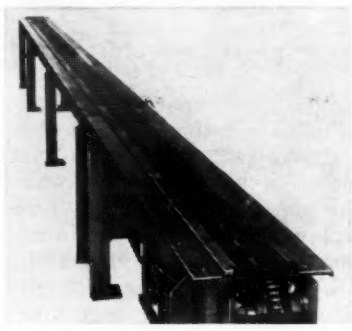
TORQUE WRENCH
has two different torque limits



Two opposing drive tangs on the Twin-Torq torque wrench give it two different torque limits. A red mark on the handle identifies the tang with the higher torque. Each torque value is set for a specific limit and is sealed to prevent tampering. Wrench is usable on assembly jobs with two threaded fasteners of different torque requirements and different sizes. Capacities range from 5 lb-in. to 500 lb-ft and drive sizes from 1/4 to 3/4 in. • **Jo-Line Tools, Inc.**, 8442 Otis St., South Gate, Calif.

For more details circle NED-338 B1 on enclosed inquiry slip

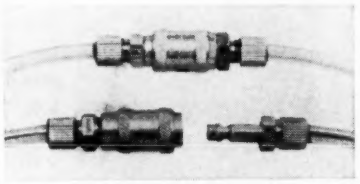
INDEXING CONVEYORS
can have strokes of any length



Indexing movements of 100 per minute have been achieved with these in-line indexing type conveyors. Strokes of any length are possible, accurate to 0.002 in. Bed and platens can be made to suit any structural requirements. It is particularly suited for automated and packaging layouts, with operating stations mounted on the frame to accommodate work stations of any size or type. • **Gaynes Engineering Co.**, 1646 W. Fulton St., Chicago 12, Ill.

For more details circle NED-339 B1 on enclosed inquiry slip

QUICK-DISCONNECT COUPLINGS
for instrumentation, air lines



Miniature Quick-Disconnect couplings which permit fast interchanging of instrumentation and small air line setups has automatic push-action locking. Series 1AP units for 1/4-in. OD thin wall plastic tubing have a tube support for securing the tubing. Plastic sleeve and brass locking nut forms a compression type fitting that needs only to be finger tightened. Series 1AC allows attachment of 3/16 and 1/4-in. OD aluminum or copper tubing to the socket or plug with a compression fitting that does not require flaring of tube. Series 1A is for pipe lines and rubber hose with 1/8-in. NPT male, female, and 1/8-in. hose stem connections. • **Perfecting Service Co.**, 332 Atando Ave., Charlotte 6, N. C.

For more details circle NED-340 B1 on enclosed inquiry slip

Dependable!

Sutton MOTOR DRIVEN PRESSURE BLOWER

- For exhausting dust, smoke, fumes, vapor...conveying fibers, shavings...cooling, drying, forge blasting.
- One piece housing...self-cleaning wheel...strong lightweight cast aluminum.
- Even, non-pulsating air flow...straight wall design cuts windage—ups efficiency.
- Set direction of discharge in any of 8 positions.
- 100-800 cu. ft. at 1/2" to 6" static pressure.
- 3450 r.p.m. direct connected 60-cycle motor...3 sizes: 1/4, 1/2, 1 H.P.

WRITE FOR LITERATURE AND PRICES

Sutton Manufacturing Corp.
112 W. WILSON AVENUE NORFOLK, VIRGINIA

For more details circle NED-341 B1 on enclosed inquiry slip

IT'S A FACT

FOR PRECISION HOLDING POWER DAY-AFTER-DAY, YEAR-AFTER-YEAR YOU CAN DEPEND ON

DE-STA-CO TOGGLE CLAMPS

Contour checking fixture with De-Sta-Co clamps quickly checks accuracy of parts against master template.

FOR MORE FACTS

phone, wire or write for NEW 36-PAGE CATALOG

TOGGLE CLAMPS · SHIMS AND SPACERS · DE-STA-CO · STAMPINGS · BLOWER HOUSINGS

DETROIT STAMPING COMPANY
340 MIDLAND AVENUE • DETROIT 3, MICHIGAN

For more details circle NED-342 B1 on enclosed inquiry slip

Nutting shows you "HOW"...

the widest choice of floor trucks in the world can cut your costs!

Nutting makes over 1000 products, here are just 15 of them

For regular or "special" design floor trucks it pays to talk to Nutting *first*. Here's why: no other company makes more models, sizes or combinations of equipment than Nutting. Many times items which you may find listed as "specials" with other makes are regular equipment in Nutting's complete line. As a result you get "custom built" type trucks at production line prices from Nutting. You not only get overall lower prices; you also get the benefit of 70 years of experience, design "know-how" and modern manufacturing skills. To save valuable hours of your time and get the right equipment for your plant, talk to a Nutting representative *first*, for all your floor truck needs!

Dollar for dollar, feature for feature Nutting is your best floor truck buy. Write for your free copy of new Junior Catalog 59G.

MEMBER CASTER AND FLOOR TRUCK

Nutting TRUCK AND CASTER COMPANY
484 Division Street • Faribault 14, Minnesota

For more details circle NED-337 B1 on enclosed inquiry slip

HOBBS HOUR METERS

GIVE THE REAL FACTS OF INDUSTRIAL TOOL USE AND MAINTENANCE

Hobbs Industrial Hour Meters provide continuous supervision of the running time of industrial machines . . . eliminating errors and deficiencies for maximum production. These elapsed time indicators tell when servicing is due . . . indicate the costs of running hour for both the machine and occupied space.

Hobbs Industrial Hour Meters make it easy to determine the life and repair costs per running hour of industrial machines . . . the actual running time of leased equipment and equipment to be sold. They set up a sound basis for service contracts. For complete information

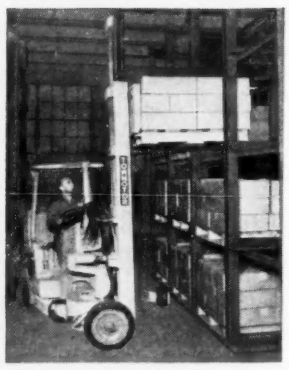
WRITE FOR CATALOG 600
Distributors in Principal Cities

John W. Hobbs Corporation
A DIVISION OF STEWART-WARNER CORPORATION
2055 YALE BLVD. SPRINGFIELD, ILLINOIS

For more details circle **NED-343 B1** on enclosed inquiry slip

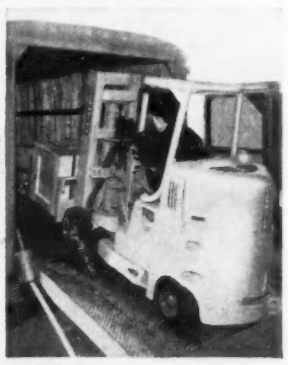
ONE TRUCK... ONE OPERATOR... DOES ALL THIS!

1. Performs like a regular fork lift truck . . .



2. Stacks left 90° in narrow 6' aisles . . .

3. Stacks right 90° in same narrow aisles . . .



4. Drives loads into trailers and boxcars!

ONLY THE NEW TOWMOTOR "NARO-AISLE-STACK" TRUCK CAN!

- Only truck of its kind for narrow 6-foot aisle stacking
- One lift truck does the work 3 trucks usually do
- Makes 36.5% of "lost" space usable in average plant

Such unique operation is made possible only because "Naro-Aisle-Stack" trucks are equipped with *Towmotor Towmostatic Drive*—the only drive of its kind that eliminates clutch, transmission, drive line, differential and shifting mechanism. Ask for booklet, "Captures Lost Space," describing the new series. Write Towmotor Corporation, Cleveland 10, Ohio.

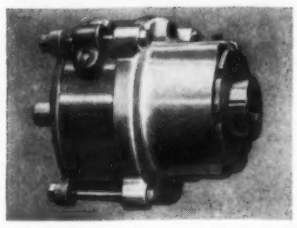
New Naro-Aisle-Stack Trucks made only by

TOWMOTOR THE ONE-MAN-GANG ® -GERLINGER

Gerlinger Carrier Co. is a subsidiary of Towmotor Corporation

For more details circle **NED-344 B1** on enclosed inquiry slip

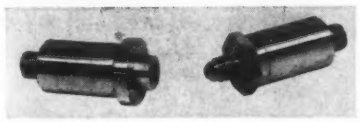
GEAR REDUCER in ratios from 3½:1 to 36:1



This shaft-mounted planetary gear reducer is offered with ratios from 3½:1 to 36:1 in a power range from 4 to 30 hp. Higher ratios and horsepower are available in standard foot-mounted units. The lightweight, compact reducer is made with steel or aluminum housing. • **Crichton Co.**, 1006 U. S. National Bank Bldg., Johnstown, Pa.

For more details circle **NED-345 B1** on enclosed inquiry slip

PRESSURE TRANSDUCERS operate in −100 to 600° F range



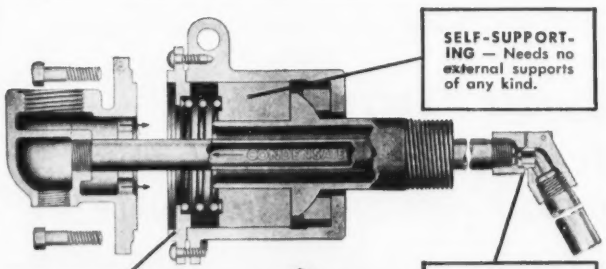
Precycled, prestabilized Model 538B and 539B pressure transducers will operate in −100 to 600° F environments while undergoing shocks in excess of 100 g for 11 milliseconds in any direction. Performance is so closely standardized, that models with the same full-scale ranges can be interchanged without recalibrating. The miniature strain-gage type transducers are identical except for pressure fitting. The 538B has a flush-mounting diaphragm; the 539B, a threaded fitting for ¼-in. flared tubing. Precalibrated versions for measuring absolute or gage pressures to 200, 500, 1000, or 2000 psi are available. Repeatability is within 0.1 per cent. • **Electro-Mechanical Research, Inc.**, Sarasota, Fla.

For more details circle **NED-346 B1** on enclosed inquiry slip

COMPRESSOR & VACUUM PUMP powered by 1/12-hp oilless motor

Laboratory equipment, labeling machines, small industrial machinery, mist coolant units, and office machines are applications for Model LV vacuum pumps and Model LC compressors. Other uses include aeration of liquids, air sampling, and liquid transfer, agitation, and atomization. Both units are powered by 1/12 hp, 115-v 1725 rpm, split phase, induction type motors. Vacuum pump has a 1.9-cfm displacement and is capable of continuous operation up to 27 in. vacuum. Compressor with 1.43-in. displacement operates up to 65 psi. Both have built-in overload protection to prevent motor failure. They weigh 18 lb, require no lubrication, and are equipped with an 8-ft cord, intake filter, and ¼-in. IPS discharge or intake. Price is $59.50. • **Bell & Gossett Co.**, Morton Grove, Ill.

For more details circle **NED-347 B1** on enclosed inquiry slip

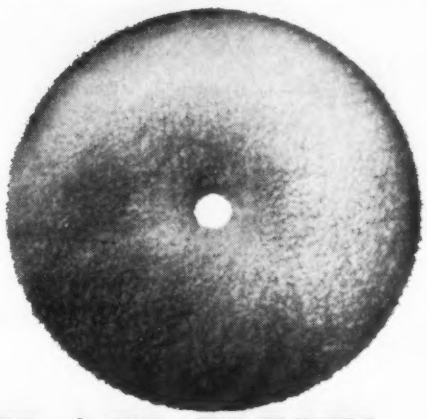


Johnson Rotary Joint with SYPHON ELBOW

Johnson Joints represent the best way industry has yet found to get steam or liquids into rotating rolls and cylinders. They are completely packless, need no lubrication or adjustment. The Type SBP shown gets steam in, condensate out, through the same head. Other types available for through flow service, in sizes to meet all operating needs. ***WRITE FOR COMPLETE INFORMATION.***

The Johnson Corporation
812 Wood St., Three Rivers, Mich.

For more details circle **NED-348 B1** on enclosed inquiry slip



RAY-BUF...

new all-purpose polishing pad

Polishes faster—Ray-Buf's deep soft pile of 100% virgin wool gives higher luster faster.

Polishes evenly—New design puts tufts in controlled concentric circles, perfectly balanced, to give even polish.

Selected first-quality yarns—Stay fresh and resilient through repeated applications. Give high-quality results.

Washable—Tufts are firmly anchored to tough canvas backing. Won't pull out even after repeated washings.

Write for Ray-Buf bulletin, prices, quantities.

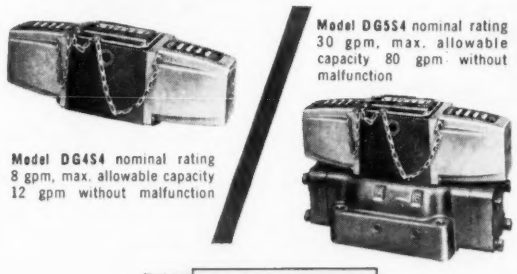
Schlegel MANUFACTURING COMPANY
P. O. Box 197, Rochester 1, N. Y. In Canada: Oakville, Ontario

For more details circle **NED-349 B1** on enclosed inquiry slip

NEW DIRECTIONAL VALVE DESIGNS improve reliability, boost capacity

New Q-E-L (Quiet Extended Life) solenoids—a Vickers exclusive—assure quiet and cool operation plus shock-free performance.

- Capacity increased 50 to 500% with no increase in price.
- Solenoid life increased 4 to 5 times over ordinary air-cooled types.
- All models suitable for pressures to 3000 psi.
- Sizes available for flows to 440 gpm.



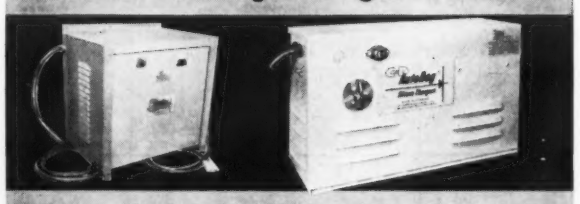
VICKERS.
VICKERS INCORPORATED
DIVISION OF SPERRY RAND CORPORATION
Machinery Hydraulics Division
ADMINISTRATIVE and ENGINEERING CENTER
Department 1400 • Detroit 32, Michigan

9273

For more details circle **NED-350 B1** on enclosed inquiry slip

USE ELECTRIC INDUSTRIAL TRUCKS?

Get simplified charging; lower maintenance costs with a C & D *AutoReg*® charger



Chargers for 6, 9, 12, 15, 16, and 18-cell batteries
Choice of overnight or 8-hour chargers

ALL MODELS
- Provide long, trouble-free life.
- Eliminate need for skilled personnel.
- Are fully automatic.
- Charge same number of cells with smaller A.H. capacity without adjustment.
- Eliminate aging adjustments.

C&D AutoReg Silicon Chargers

Write for complete details—
12-, to 18-cell batteries, Bulletin AR-109
6- and 9-cell batteries, Bulletin AR-110

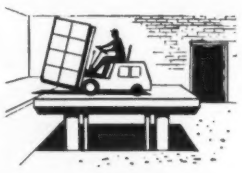
A PRODUCT OF C & D BATTERIES DIV., THE ELECTRIC AUTOLITE CO. OF CONSHOHOCKEN, PA.

For more details circle **NED-351 B1** on enclosed inquiry slip

Lift it the low-cost way

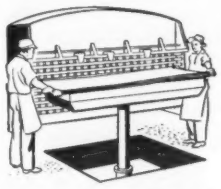
WITH DEPENDABLE HYDRAULIC POWER

Load trucks from floor level . . . no dock needed



Move traffic from one floor level to another

Rotary Levelator Lifts, using dependable, economical oil-hydraulic power, have countless applications in modern industry. Capacities to 100,000 lbs. Standard models and special lifts engineered to your specifications. Write for catalog.



Feed machines, perform other industrial lifting jobs

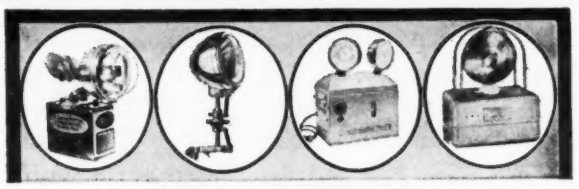
Rotary® **Levelator® Lifts**

ROTARY LIFT COMPANY

Division of the Dover Corporation

1088 Kentucky, Memphis 2, Tenn. • Chatham, Ont.

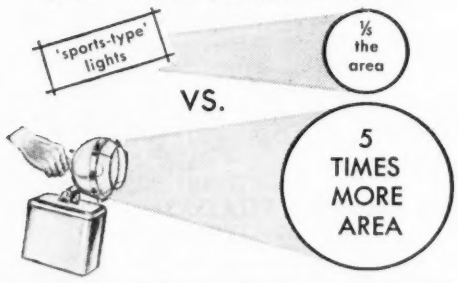
▲ For more details circle **NED-352 B1** on enclosed inquiry slip ▲



THERE IS NO SUBSTITUTE

FOR **POWER . . .**

Insist on the lights with Power to spare . . . when you need it most!



"Portalites" cover *five times* the area of 'sports-type' lights with the same or greater intensity! Available with battery-pack specifically designed for emergency lighting . . . gives from 150% to 400% of the light at less cost! Also rechargeable battery types.

COMPLETE CATALOG ON REQUEST

CARPENTER MFG. COMPANY

971 Bradley Street, Somerville 45, Mass. Telephone MOnument 6-4300

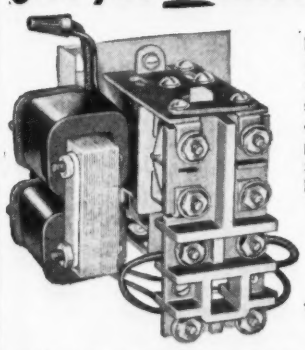
▲ For more details circle **NED-353 B1** on enclosed inquiry slip ▲

WARRICK

Floatless, Electrode Type

LIQUID LEVEL CONTROLS

give you all these advantages!



No moving parts in the liquid • Easy to install • No adjustments necessary • Unaffected by acids or caustics • Unaffected by pressure or temperature • Standard 2&3 pole units listed by U/L

Write for 32-page Catalog which gives complete specifications

Two pole control shown at left

YOU CAN USE OUR CONTROLS FOR:

- Single & multiple pumps
- Motor & solenoid valves
- High & low cutoffs & alarms
- Sewage & waterworks
- Chemical Industries
- Food & Dairy Industries
- OEM applications

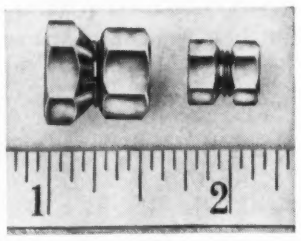
Special controls to custom requirements

CHARLES F. WARRICK CO.

1964 W. Eleven Mile Road, Berkley, Michigan
Dep't 6 Telephone JOrdan 4-6667

▲ For more details circle **NED-354 B1** on enclosed inquiry slip ▲

SHAFT LOCKS
for use on volume controls, coils



Two wrench type Cambion shaft locks for use on volume controls, coils, and capacitors are made of brass and available with black oxide finish or heavy nickel plating. Lock No. 2038 for ⅛ in. diameter shafts is ⅜ in. long over-all with an 11/32-in. hex locking nut and 11/32-in. collet. Lock No. 1774 for ¼-in. diameter shafts is ½ in. long with a ½-in. hex nut and 9/16-in. hex collet. They have ¼-32 and ⅜-32 threads, respectively. • **Cambridge Thermionic Corp.**, 445 Concord Ave., Cambridge 38, Mass.

▲ For more details circle **NED-355 B1** on enclosed inquiry slip ▲

SNAP-ACTION SWITCH
designed for panel mounting

Weighing only 6 oz and requiring an operating force of 21 oz, the B-PB3-2 miniature pushbutton switch provides the positive feel of switch operation with almost simultaneous switching action. It is designed for panel mounting and conforms to MIL-S-6743 specification. Electrical rating is 5 amp at 120/240 v ac, 3 amp inductive and 4 amp resistive at 30 v dc at sea level. It is also available with a rating of 10 amp resistive or 8 amp inductive at 30 v dc at sea level, 10 amp at 125 v dc, and 5 amp at 240 v ac. • **Milli-Switch Corp.**, Gladwyne, Pa.

▲ For more details circle **NED-356 B1** on enclosed inquiry slip ▲

WORK BENCH
with drawers or door cabinet

Portable work surface is combined with storage space in series of work benches for the tool room and shop. The 30 in. wide by 28 in. deep units are available with drawers as shown, or with door cabinets, and with or without wheels. Drawers are mounted on nylon rollers with latches and padlock attachments standard. A tempered Masonite surface is optional on the 12-gage steel top. • **Aurora Equipment Co.**, Equipto Div., 422 Cleveland Ave., Aurora, Ill.

▲ For more details circle **NED-357 B1** on enclosed inquiry slip ▲

FOR HOT BOLTS USE

Thred-Gard Anti-Seize Compound

Prevents Seizing and Galling of Threaded Surfaces to 1200°F.

FLANGED PIPE CONNECTIONS

Power and Utility Service: boiler manhole, handhole and face plate studs . . . cylinder head and exhaust manifold studs . . . flange bolts on high temperature pumps, valves and steam lines.

CYLINDER HEADS

Refinery and Chemical Service: flange bolts on pipe connections, autoclaves, reactors, kettles, pumps and valves . . . studs on "cat" crackers, heat exchangers, suction heaters, coolers and condensers.

HANDHOLE AND FACE PLATES

Steel Mill, Forge and Foundry Service: soaking pit or ingot stripper crane assemblies . . . steel studs in magnesium and aluminum dies and forging dies . . . studs on furnaces and cooking ovens.

Available in ½ pint, pint and quart cans. Order a trial can today!

Request literature. Order a trial sample.

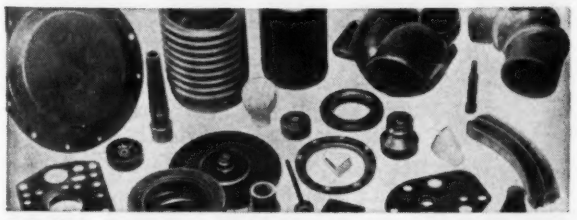
John Crane — MECHANICAL PACKINGS · SHAFT SEALS · TEFLON PRODUCTS · LAPPING MACHINES · THREAD COMPOUNDS

CRANE PACKING COMPANY

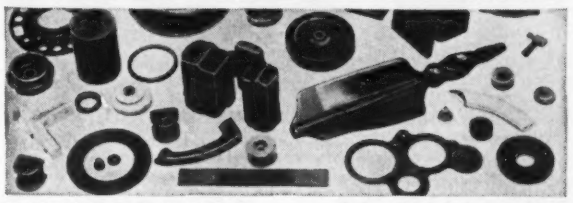
6411 OAKTON ST., MORTON GROVE, ILL. *(Chicago Suburb)*

In Canada: Crane Packing Co., Ltd., Hamilton, Ont.

▲ For more details circle **NED-358 B1** on enclosed inquiry slip ▲



MOLDED RUBBER PARTS



BY HUNDREDS . . . OR MILLIONS

WE MATCH YOUR SPECS AND YOUR PRODUCTION SCHEDULES

We can produce in quantity any part made of molded solid rubber (illustrated) or of extruded flexible vinyl plastic. We have complete engineering and technical personnel for working with you on developing the design or redesigning a part, plus a long and successful performance record on quality and deliveries to schedule. Send drawing, sketch or part for prompt quote. Ask for illustrated folder.

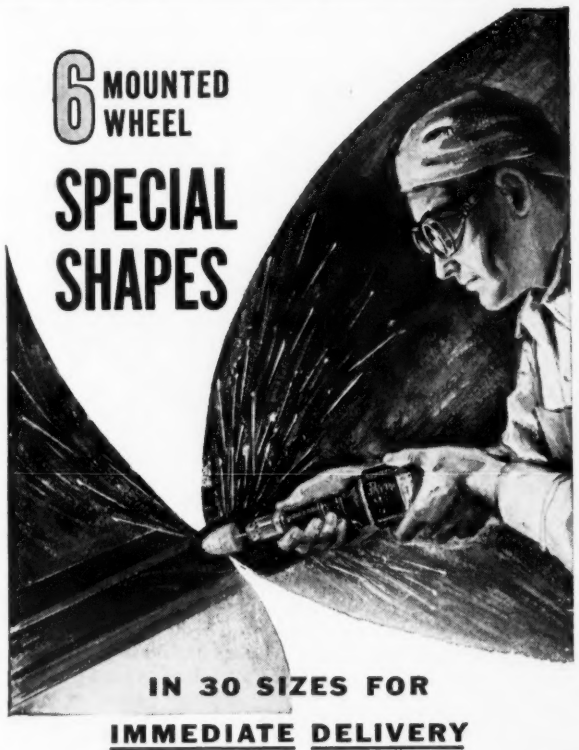
REPUBLIC RUBBER DIVISION

LEE RUBBER & TIRE CORPORATION, YOUNGSTOWN 1, OHIO

INDUSTRIAL RUBBER PRODUCTS

▲ For more details circle **NED-359 B1** on enclosed inquiry slip ▲

6 MOUNTED WHEEL SPECIAL SHAPES



IN 30 SIZES FOR IMMEDIATE DELIVERY FROM STOCK!

These are the new "SS" (Special Shape) Mounted Wheels now available through your Chicago Wheel supplier. You select from 6 Special Shapes instead of 200. You choose from 30 sizes in 3 specifications (see below). Best of all, you get *immediate delivery* of the finest quality mounted wheels. Research and industry practice have shown that the new "SS" Series Mounted Wheels cover 96% of all portable off-hand grinding needs. Ask your supplier for "SS" Chicago Wheels.

SPECIFICATIONS OF NEW "SS" MOUNTED WHEELS FOR IMMEDIATE DELIVERY

A	General purpose grinding	All sizes
B	Die grinding, high rockwells; hardened tool steels, die steels	All sizes
C	Castings, iron and steel	Selected sizes

Write for your free copy of Bulletin SS-101 which fully illustrates and prices the new SS Series of CHICAGO Mounted Wheels.

CHICAGO WHEEL & MFG. CO.

1101 WEST MONROE STREET

Dept. ED-2 • Chicago 7, Illinois • CAnal 6-8155

DISTRICT OFFICES

Chicago, Illinois • Milwaukee, Wisconsin • Kansas City, Kansas
Detroit, Michigan • St. Louis, Missouri • Hollywood, California
Cleveland, Ohio • New York City • Northampton, Massachusetts

▲ For more details circle **NED-360 B1** on enclosed inquiry slip ▲

EDMONT CASE NO. 674: Handling oily steel strips from a punch press, Edmont's No. 30 Monkey Grip glove, palm coated with tough vinyl, outwore leather palm gloves 5 to 1, cutting glove costs and providing safer grip.

Outwore leather gloves 5 to 1

In the case above, the Edmont-recommended Monkey Grip glove wore 5 times longer and protected better than leather palm gloves, because it is *job-fitted* for handling strip steel. A wing thumb and curved, preflexed fingers give natural fit and working comfort.

Free Test Offer to Listed Firms: Tell us your operation and materials handled. From more than 50 types of *Extra*coated and impregnated fabric gloves, we will recommend correct gloves and send samples for on-the-job comparison test.

Edmont Inc. 1240 Walnut Street, Coshocton, Ohio. In Canada, write Edmont Canada Ltd., Cowansville, Quebec.

Edmont JOB-FITTED GLOVES

For more details circle NED-361 B1 on enclosed inquiry slip

WIRE-TAINERS
Save Costs, Time and Space

2,000 AND 4,000 LBS. CAPACITY WITH VISIBLE INVENTORY AT ALL TIMES

WIRE-TAINERS are the economical way to handle materials in production, storage, or transit. Available in a wide variety of models and sizes for efficient, economical service. 2 x 2 electro-welded steel wire mesh with a dipped aluminum finish. WIRE-TAINERS stack or fold to save floor space and are engineered to withstand hard usage.

SPRINGPORT STEEL Products Co.
03 SPRINGPORT, MICHIGAN

For more details circle NED-362 B1 on enclosed inquiry slip

HOW TO REDUCE HANDLING AND STORAGE COSTS

Low-Cost Flexible Stackbin System Saves Space, Time and Labor

Stackbin®-Stackrack® Combinations are the ideal way to minimize parts, tools, materials handling. Stackbins are portable containers, so you can carry materials throughout your process without transferring contents to any other container. Stored in Stackracks, every Stackbin is instantly accessible when it's needed. You never disturb another bin. Hopper fronts on Stackbins provide visibility and accessibility to the materials. Available in 7 sizes, Stackbin-Stackrack Combinations make most efficient use of floor space. With inexpensive Adapters any small units can be stacked on larger units. Related items can be kept in one place. Individual units lock together: no tools, no setup time needed.

WRITE FOR NEW CATALOG
All Stackbin Products Sold Direct
STACKBIN CORPORATION
1081 Main St., Pawtucket, R. I.

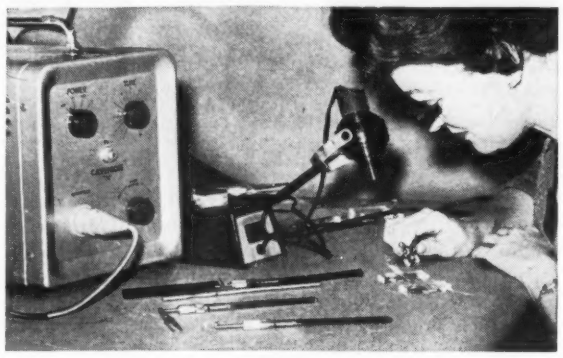
Mfgd. and sold in Canada exclusively by Wickware-Stackbin, Ltd., Perth

STACKBIN® SYSTEM "Stacked and Still Accessible"

For more details circle NED-363 B1 on enclosed inquiry slip

ULTRASONIC WELDER
for heatless, micro-joining work

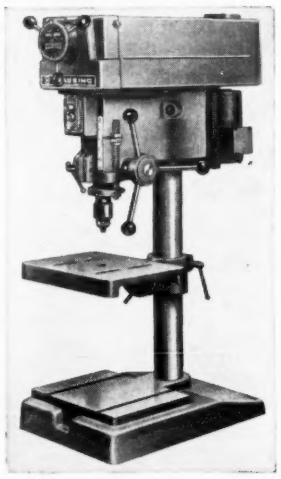
Welds as fine as 0.0001-in. diameter are made without heat with this Cavitron universal ultrasonic micro-joining kit. It will also solder a wide range of metals



without need for flux. The kit is a table-size unit and consists of an ultrasonic transducer, interchangeable handpieces, and four basic inserts. Latter includes attachments for tweezer welds, a ball modification, a spot welding unit, and a vibrating table, with an optional wheelhead for seam welding. Additional tips can be used to perform virtually any micro-joining operation. Gold wires as fine as 0.0004 in. have been joined. Kit is used with the table type generator. • **Cavitron Corp.**, 51-02 21st St., Long Island City 1, N. Y.

For more details circle NED-364 B1 on enclosed inquiry slip

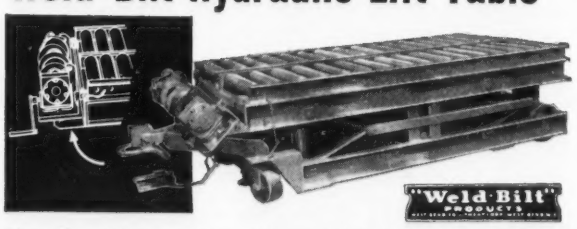
15-IN. DRILL PRESSES
have variable or five-speed drives



A 10 x 14-in. precision ground tilting table, base with 10 x 13-in. ground working surface, positive depth stop, and front-mounted safety switch are features of Clausing 15-in. bench and floor model drill presses. A variable speed drive permits selection of any speed from 500 to 4500 rpm while the drill is running, whereas a five-speed drive affords 410 to 5380-rpm spindle speeds. The splined spindle is supported by two lubricated-for-life ball bearings. Presses will drill to the center of a 15-in. circle. Floor models have a 41¾-in. spindle to table and 47⅛-in. spindle-to-base capacities. Bench model capacities are 14¼ in. over table and 19⅝ in. over base. Choice of No. 2 MT spindle or ½-in. key chuck, and ½ or ¼-hp motor are given. Prices begin at $131. • **Atlas Press Co.**, Clausing Div., 2315 N. Pitcher St., Kalamazoo, Mich.

For more details circle NED-365 B1 on enclosed inquiry slip

New Dual Purpose
Weld-Bilt Hydraulic Lift Table



Handles Heavy Dies, Sheet Metal Easily, Swiftly!

Equipped with a roller conveyor top and hand winch, this heavy-duty Weld-Bilt Hydraulic Lift Table is designed as a *double-duty* unit. With the winch in position, it simplifies moving heavy dies onto and off of your presses. Then the winch can be swung down out of the way and the lift table used to feed heavy sheet steel for press operation. Wheels and casters permit easy positioning. The foot pedal control is an electric switch for powered raising or lowering table for press-height feeding. Various top dimensions available in capacities up to 30,000 lbs.

Call on Weld-Bilt engineers for assistance, suggestions and cost estimates for your heavy-duty lifting jobs. Or write for bulletin No. HT358.

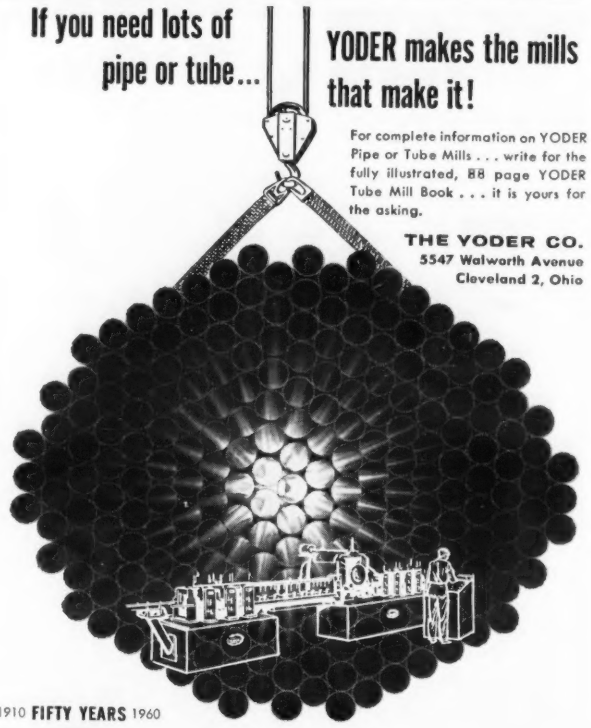
WEST BEND EQUIPMENT CORP.
MATERIALS HANDLING ENGINEERS
311 Water Street, West Bend, Wisconsin

For more details circle NED-366 B1 on enclosed inquiry slip

If you need lots of pipe or tube... YODER makes the mills that make it!

For complete information on YODER Pipe or Tube Mills . . . write for the fully illustrated, 88 page YODER Tube Mill Book . . . it is yours for the asking.

THE YODER CO.
5547 Walworth Avenue
Cleveland 2, Ohio



1910 FIFTY YEARS 1960

YODER — PIPE AND TUBE MILLS (ferrous or non-ferrous)
COLD ROLL FORMING MACHINES
ROTARY SLITTING LINES

For more details circle NED-367 B1 on enclosed inquiry slip

WORK ON RELAYS?

Then you need this HANDY, COMPLETE TOOL KIT

EVERY TOOL NECESSARY FOR ADJUSTING, CHECKING AND TROUBLE-SHOOTING RELAYS

18 TOOLS

All 18 tools especially designed for RELAY WORK. Includes Contact Burnisher with extra blades, Spring Tension Gauge, Wrenches, Thickness Gauge Set, Inspection Mirror, etc. All in Vinyl Case.

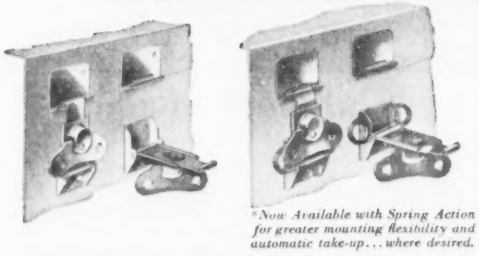
Write for bulletin and FREE copy of valuable book on "How To Service Relays."

KIT NO. TK-18 $34.00 COMPLETE

P. K. NEUSES, INC.
511-31 N. DWYER ST. • ARLINGTON HEIGHTS, ILL.

For more details circle NED-368 B1 on enclosed inquiry slip

Look to LINK-LOCK* for pressure-tight sealing



**Now Available with Spring Action for greater mounting flexibility and automatic take-up . . . where desired.*

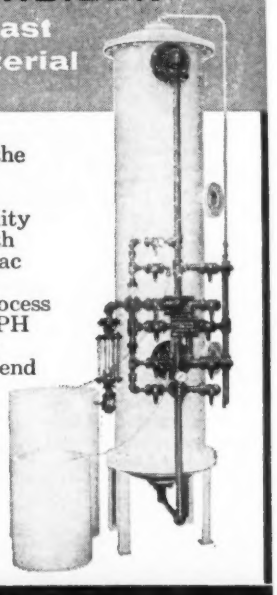
Here's a positive-locking fastener you can use wherever preloaded closure is desired. Heavy pull-down pressure insures water-tight sealing when gaskets are used. Offered in three sizes, LINK-LOCK is compact, simple in design, economical. Open or closed, it always lies flat. Provides excellent impact and drop-test resistance, is trouble-free even at −70° F. A natural for instrument cases, storage boxes, etc. Write for samples and 40-page catalog.

SIMMONS FASTENERS
Quick-Lock · Spring-Lock · Roto-Lock · Link-Lock · Dual-Lock · Hinge-Lock

SIMMONS FASTENER CORPORATION
1793 NORTH BROADWAY, ALBANY 1, N. Y.

For more details circle NED-369 B1 on enclosed inquiry slip

NEW COCHRANE UNI-PAC* PACKAGED DEMINERALIZER controls your least uniform raw material . . . WATER



Are seasonal changes in the mineral content of your water supply a costly headache? Maintain quality standards year round with this *new* Cochrane Uni-Pac Packaged demineralizer, designed expressly for process systems. Sizes to 3500 GPH factory assembled, easily installed and operated. Send for Publication 5819.

Units available with both manual and automatic controls. Send for publication 5819.

*Trademark

Cochrane DIVISION
CRANE CO.
3143 N. 17th Street, Phila. 32, Pa.
Representatives in 43 principal U.S. and foreign cities.

For more details circle NED-370 B1 on enclosed inquiry slip

A TULSA® WINCH CAN TAKE IT!

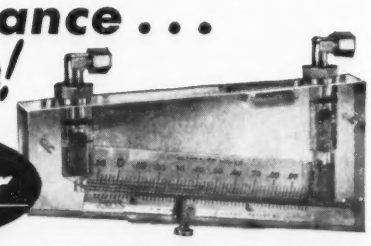
- RESERVE STRENGTH
- LONGER SERVICE
- WORLD-WIDE DISTRIBUTION

Stronger . . . more durable . . . greater operating efficiency . . . easier installation . . . that's the Tulsa Winch! And Tulsa Winches are so versatile. There's one designed for every purpose. Whether it's the big job or the small job, the Tulsa Winch can more than take it. Immediately available through the world-wide sales-service facilities of our dealers and distributors. Ask to see our line.

TULSA PRODUCTS DIVISION
VICKERS INCORPORATED
Division of Sperry Rand Corporation
731 E. First Street
TULSA 20, OKLAHOMA

For more details circle NED-371 B1 on enclosed inquiry slip

FILTER EFFICIENCY at a glance . . . anytime!



Dwyer

AIR FILTER GAGE

With the Dwyer Air Filter Gage you can be sure of maximum filter efficiency because you know the *exact* time to replace filters, *every time*. Gives a continuous, accurate check that spots inefficient filters, yet prevents waste through premature replacement.

The Dwyer measures filter efficiency the only practical and economical way—via pressure drop. Quickly pays for itself through savings in replacement and service time and greater operating efficiency.

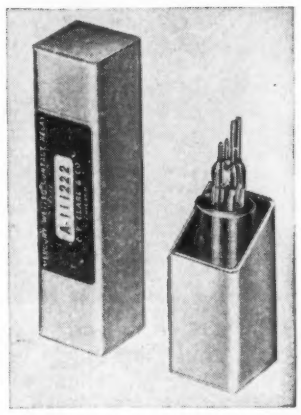
Break-proof plastic construction, lifelong accuracy, simple installation, no moving parts to ever wear out or get out of adjustment. Ranges 0-½", 0-1", 0-2" and 0-3" water. A complete unit with all necessary tubing, fittings, etc.

Write for Bulletin C10

F. W. DWYER MFG. CO.
P. O. BOX 373-Q • MICHIGAN CITY, INDIANA

For more details circle NED-372 B1 on enclosed inquiry slip

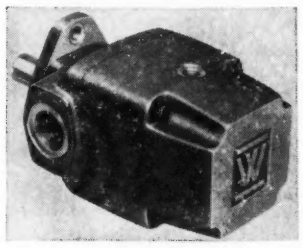
MERCURY-WETTED RELAYS for printed circuit board mounting



Good mechanical protection and magnetic shielding are provided by the plated steel enclosure in which the capsule of these mercury - wetted contact relays is potted. The self-contained units are furnished ready for mounting on printed circuit boards. Modules are available with standard HG switch capsules or the super - sensitive, super - fast HGS capsules. Coils are wound to specifications. • **C. P. Clare & Co.**, 3101 Pratt Blvd., Chicago 45, Ill.

For more details circle NED-373 B1 on enclosed inquiry slip

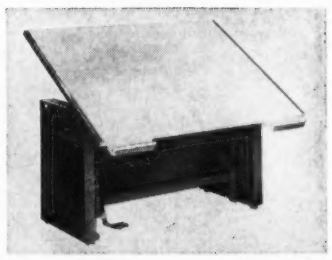
HYDRAULIC PUMPS & MOTORS rated for 3000-psi continuous duty



C3F Series fixed displacement axial type piston motors for industrial machines are rated for continuous duty of 3000 psi and intermittent duty of 3500 psi. Capacity at 1200 rpm is 3.3 to 8.5 gpm; at 1800 rpm it is 5 to 14 gpm. Operating speeds are up to 2400 rpm; the largest unit delivers 18 gpm at this speed. As motors, the units have torque ranges of 11.52, 17.28, 23.04, and 28.80 lb-in. per 100 psi, or outputs of 5.5 to 12 hp at 1200 rpm and 8 to 22 hp at 1800 rpm, operating at 3000 psi. They can be serviced without disturbing the piping, and rotation can be reversed in the field. Use as a dual rotation motor is also possible. Mounting bosses handle 1-in. NPT inlet or 1¼-in. OD tubing thread. Several drive shaft variations are available. • **Webster Electric Co.**, Clark & DeKoven Avenues, Racine, Wis.

For more details circle NED-374 B1 on enclosed inquiry slip

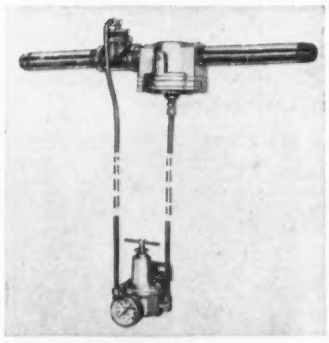
DRAFTING TABLES tops are fully counterbalanced



Weight-free control of angle position, either up or down, is afforded in May-O-Matic and Desk-O-Matic drafting tables with full counterbalancing of the tops. Adjustable springs on the tilting top permit the operator to compensate for edge weight induced by drafting machine, electric eraser, light, or other accessories. These smooth-operating tables have minimum heights of 29 and 37 in. with a built-in rise of 9 in. each. An additional rise of 4 in. is obtained in two steps by loosening four bolts. Standard finish is hammertone gray. • **Mayline Co.**, 619 N. Commerce St., Sheboygan, Wis.

For more details circle NED-375 B1 on enclosed inquiry slip

AIR PRESSURE REGULATOR for use on inaccessible air lines



Column of controlled air pressure is the regulating media of the Crown Pilot Controlled regulator, replacing the adjusting screw and control spring in standard regulators. Designed for remote regulation of inaccessible air lines, the unit assures prompt response and accurate pressure control. Any size regulator having the desired pressure range may be used as the pilot regulator, and may be mounted in any convenient location. Uses include controlling air flow through large pipe, providing two or more different pressures to a single tool or cylinder, maintaining stable pressure in downstream pressure sensing systems, and controlling multiple or ganged air tools. • **Hannifin Co.**, Dept. 128, 501 S. Wolf Rd., Des Plaines, Ill.

For more details circle NED-376 B1 on enclosed inquiry slip

LepeL
High Frequency Induction
HEATING EQUIPMENT
For Hardening • Annealing • Soldering
Brazing • Zone Refining • Crystal Growing

ELECTRONIC TUBE GENERATORS:
1 kw; 2½ kw; 5 kw; 10 kw; 20 kw; 30 kw; 50 kw; 75 kw; 100 kw.

SPARK GAP CONVERTERS:
2 kw; 4 kw; 7½ kw; 15 kw; 30 kw.

WRITE FOR THE NEW LEPEL CATALOG 36 illustrated pages of valuable information.

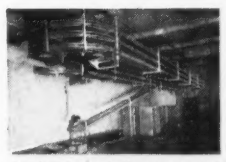
LepeL HIGH FREQUENCY LABORATORIES, INC.
55th ST. & 37th AVE., WOODSIDE 77, N. Y.
CHICAGO OFFICE: 6246 WEST NORTH AVE.

For more details circle NED-377 B1 on enclosed inquiry slip

ONLY WENDWAY can do so many jobs So Well!

To carry your production from the initial processing stage right through to the shipping department . . . just press the control button on a Wendway Light Product Conveyor. Wendway delivers a steady flow of products or materials smoothly, quietly, wherever you need them. Up, down, around, through walls and back again. It's that versatile! See for yourself how Wendway can save you money in space, handling costs, convenience and time. Just fill in the coupon below.

Wendway Conveyor belting, constructed of special #7 wire and fabricated on specialized machines, is an exclusive development of Union Steel Products Co.



Wendway Spiral Conveyor cools raw products, packages or containers at ceiling height. Saves floor space.

3 Tier Wendway Package Conveyor carries a steady flow of packages to waiting trucks.

Single Tier Wendway Conveyor moves packages from bag loader through a series of stapling operations.

Sliced Cold Meats travel on Wendway stainless steel belting through labeling and on to wrapping machine.

Wendway carrying freshly packaged cheese to labeling machine.

Cartons and Light Packages move perfectly on Wendway's smooth, silent belting.

UNION STEEL PRODUCTS CO.
ALBION, MICHIGAN

Mail Today

Gentlemen: Please send additional information about Wendway for conveying _____
Name _____
Company _____
Address _____
City _____ Zone ____ State ____
☐ Please have a USP Conveyor engineer contact me at once.

For more details circle NED-378 B1 on enclosed inquiry slip

P&S TURNLOK

Built to Take It

P&S TURNLOK wiring devices are designed to give trouble-free service no matter how tough the going gets. TURNLOK devices are available in 10 and 20 Amperes, 2-, 3-, and 4-wire types: receptacles, connectors and caps.

PERFORMANCE SPECIFIED

For information about P&S TURNLOK Line, write Dept. NED-261.

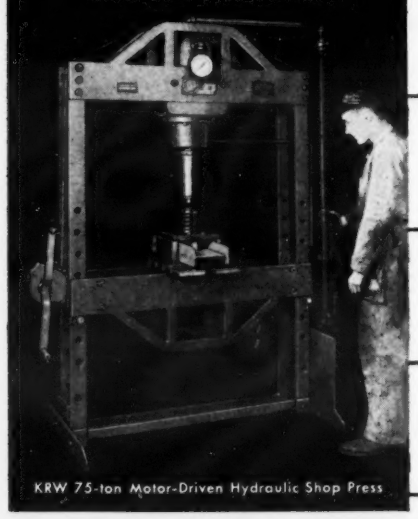
PASS & SEYMOUR, INC.
SYRACUSE 9, NEW YORK

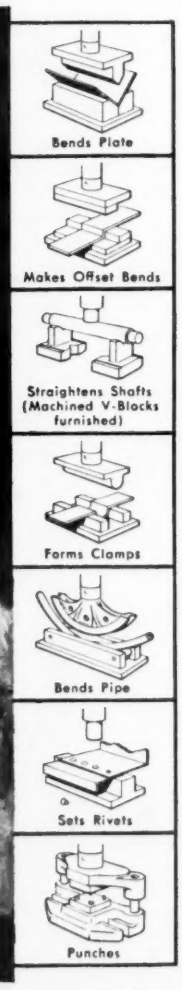
60 E. 42nd St., New York 17, N.Y. 1440 N. Pulaski Rd., Chicago 51, Ill. In Canada: Renfrew Electric Co., Ltd., Toronto, Ontario

For more details circle NED-379 B1 on enclosed inquiry slip

KRW

MULTI-JOB PRESS DOES ALMOST EVERYTHING!





JACK OF ALL JOBS: This KRW Motor-Driven Hydraulic Shop Press performs all sorts of work that calls for a "squeeze" (up to 75 tons) There's practically no limit to what it can do. The jobs shown above are but a few. Dies can be readily improvised for hundreds of applications.

QUICK CHANGEOVER. It usually takes only a minute or two to switch from one setup to another. As a result, many a KRW shop press that has been purchased for one job is now doing dozens.

SPEED, ACCURACY AND OPERATING EASE: Developed by a maker of numerous types of hydraulic presses, KRW features assure bonus performance: Bed and crown members truss-reinforced. Any pressure up to rated tonnage quickly attained. Convenient lever controls ram. Excellent inching. Spring return of ram. Direct-connected motor drive.

GET THE FULL STORY on this versatile machine as well as other KRW hydraulic shop presses (motor-driven and hand-operated, 25 thru 150 tons). Mail the coupon below.

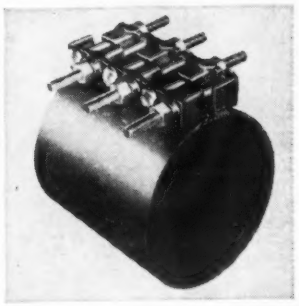
K. R. WILSON, INC.
1228 MAIN STREET, ARCADE, N. Y.

MAIL illustrated bulletins on KRW Motor-Driven and Hand-Operated Shop Presses to us, without obligation.

NAME _____ TITLE _____
COMPANY _____
STREET _____
CITY _____ ZONE _____ STATE _____

For more details circle NED-380 B1 on enclosed inquiry slip

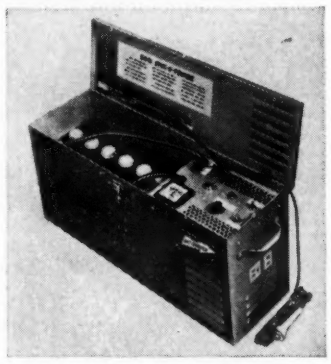
PIPE REPAIR COUPLING
is full-circle clamp type unit



All the bolts are on top of Type 216 Full-Circle clamp coupling designed for permanent repair of cast iron, asbestos-cement, and steel pipe in all common sizes up through 8 in. nominal. Special lug design and alternating bolt arrangement afford high mechanical strength and sealing power. Coupling has recessed armor and finely gridded gasket to assure permanent leak protection. • **Smith-Blair, Inc.,** 535 Railroad Ave., South San Francisco, Calif.

For more details circle NED-381 B1 on enclosed inquiry slip

PORTABLE 110-V AC SOURCE
utilizes 12-v storage battery

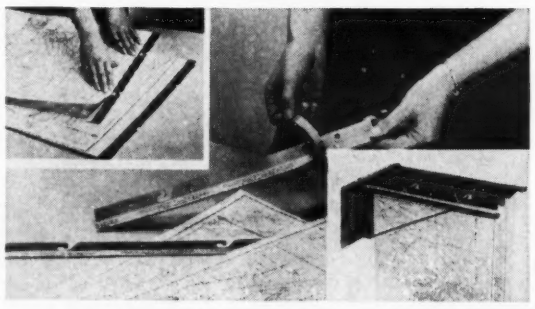


Using a 12-v storage battery, the Activerter provides 110-v ac for operating power hand tools, lights, radios, vacuum cleaners, and other electrical devices. The portable power source is available in four models with from 150 to 500 w output. In addition to converting 12 v dc to 110-v ac, the fully transistorized unit becomes a fast or slow charger for 6 and 12-v batteries with a flick of a switch. It is available as a simple inverter, inverter-charger, or as a self-contained battery-inverter-charger. • **Electric Storage Battery Co.,** Dept. G, Box 6266, Cleveland 1, Ohio.

For more details circle NED-382 B1 on enclosed inquiry slip

VERTICAL PLAN FILE
self-adhesive hangers simplify use

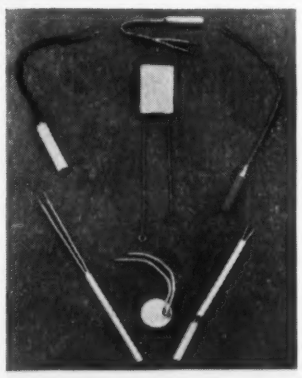
Notched to fit Plan Hold filing racks, self-adhesive strip hangers in 18 and 36-in. sizes protect plans and drawings and facilitate filing. Also introduced is the



adjustable rack which accommodates 150 hangers and drawings of any width to 36 in. Although intended for single sheets, envelopes, artwork, tracings, and other work can be fitted with the hanger. Predrilled holes permit groups of hangers to be fastened together with paper fasteners. Hangers are applied to drawings easily after stripping off the protective backing. The 18-in. hangers retail for $1.75 per dozen. • **Plan Hold Corp.,** 5204 Chakemco St., South Gate, Calif.

For more details circle NED-383 B1 on enclosed inquiry slip

CERAMIC HEATERS
for spot heat applications



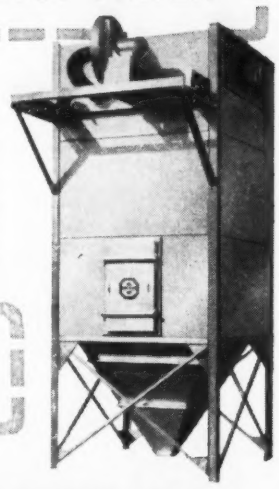
Expanded line of ceramic heaters includes cartridge type units without the watt density or ruggedness of standard cartridge heaters. They are intended for spot heat applications in appliances, small tools, vending machines, embossing machines, and instruments. Cores, including coils and terminals, are packed with magnesium oxide and cemented with porcelain cement. A range of diameters, lengths, wattage, and voltage ratings is available. • **Vulcan Electric Co.,** 88 Holten St., Danvers 7, Mass.

For more details circle NED-384 B1 on enclosed inquiry slip

NOW GET THE FACTS ON NEW KOPPERS MODEL K AEROTURN® DUST FILTER

You recover more product, at lower cost, more dependably with the all-new Koppers Model K Aeroturn—the only new reverse-air jet filter on the market. New blow rings, new carriage drive system, standardized design—backed by 15 years of diversified application experience—fit Aeroturn Model K for demanding industrial service.

Write now for free, informative brochure to: KOPPERS COMPANY INC., Dust Filter Dept., 4302 Scott St., Baltimore 3, Md.



KOPPERS AEROTURN® DUST FILTERS

Engineered Products Sold with Service

For more details circle NED-385 B1 on enclosed inquiry slip

FOR LIFTING POWER where and when you need it . . .

specify **RUGER** MULTI-PURPOSE CRANES

Ruger Hydraulic Cranes reach in-under-over . . . unload trucks . . . lift motors, machinery and crates . . . lay pipe . . . tilt drums . . . mate dies . . . combine all your lifting and transporting problems into one operation. Manual and electric models available are floor . . . truck . . . convertible floor and truck . . . short mast . . . high mast . . . wide base . . . adjustable leg and retractable outrigger (for side lifting). WRITE FOR DETAILS AND PRICES.

NEW STACK-OR-LIFT ACCESSORY AVAILABLE FOR ½, 1 AND 2 TON MODELS

THE CRANE WITH 1000 USES

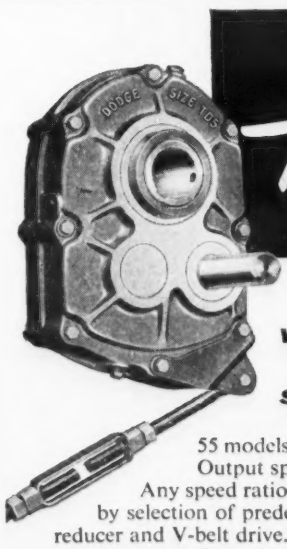
RUGER

RUGER EQUIPMENT, INC.
619 W. Fourth Street • Uhrichsville, Ohio

8794-RE

For more details circle NED-386 B1 on enclosed inquiry slip

DODGE Torque-Arm



America's most widely used shaft mounted speed reducer!

55 models! Capacities up to 170 hp. Output speeds from 10 to 378 rpm. Any speed ratio up to 150 to 1 obtainable by selection of predetermined combination of reducer and V-belt drive. Torque-Arm is noted for its great ruggedness (semisteel housing), its high quality heat treated, helical steel gears, its very high efficiency, its cost saving characteristics. Ask your Dodge Distributor or write for bulletin.

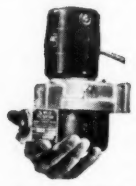
DODGE MANUFACTURING CORPORATION
2100 Union Street, Mishawaka, Indiana

DODGE
of Mishawaka, Ind.

For more details circle NED-387 B1 on enclosed inquiry slip

there are just two things you can't get when you specify OIL-DYNE cylinders!

Oil-Dyne cylinders, in bore sizes as small as ½", pack all the capacity and performance of larger bore cylinders into precision-built miniatures that will do the very same work. Only *waste space* and *excessive costs* are missing! Oil-Dyne miniaturized hydraulic and air cylinders, ½" to 4" bore sizes, offer easy, economical installation, permit actuation never before possible in confined areas. Rated at 5,000 psi, suitable for use at lower pressures. Stroke lengths to 72", complete line of mountings. For complete information on the cylinders you need to save space and money, write for Catalog 30.



PIONEERING MINIATURIZED HYDRAULIC ACTUATION

OIL-DYNE INC.

2115X West Marquette Road • Chicago 36, Ill.

PUMPS • CYLINDERS • VALVES
PRESSURE SWITCHES • ACCESSORIES

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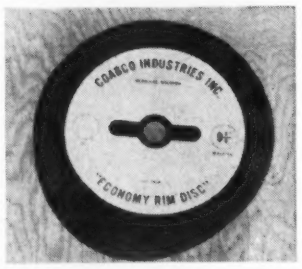
JERGENS TOOL SPECIALTY CO.

Dept. NE-2, 712 E. 163rd St., Cleveland 10, Ohio

For more details circle NED-389 B1 on enclosed inquiry slip

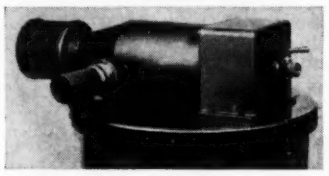
SANDER DISCS
abrasive is applied only at rim



Fiber - backed Econorim sander discs in 5, 7, and 9⅛-in. diameters have a 1-in. wide usable abrasive face only at the rim. They are therefore low in cost and economical to use. It is reported that in 90 per cent of sanding operations only the periphery is normally used, with the balance of the abrasive area wasted. Types made are firm in coarse grit for heavy stock removal, flexible for contour work without gouging, and super flexible in fine grits for fine polishing and surface finishing. Resin bonded discs are offered in slotted and unslotted types in 16 to 80 grit and finer. • **Coabco Industries Inc.**, 4530 W. Greenfield Ave., Milwaukee 14, Wis.

For more details circle NED-391 B1 on enclosed inquiry slip

INDUSTRIAL VACUUM CLEANER
cover assembly fits 30, 55-gal drums

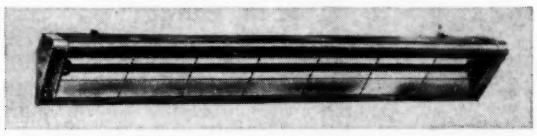


Available as cover assemblies to fit 30 and 55-gal drums, this industrial vacuum cleaner employs a simple venturi system which operates on a plant compressed air supply. Units will pick up almost anything that will pass through a 2-in. hose, as well as sand, at a rate of 5000 lb per hour and liquids at a rate of almost 6000 gph. • **Northeast Industries, Inc.**, 282 Greenwood Ave., Midland Park, N. J.

For more details circle NED-392 B1 on enclosed inquiry slip

INFRARED SPOT HEATERS
tube elements resist thermal shock

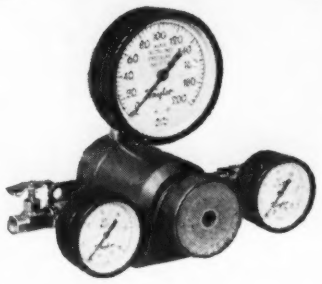
Infrared emissions from VOH line of heaters for indoor and outdoor spot heating are concentrated and directed to a local area, warming persons or objects



they touch rather than heating the air. A tubular coil element sealed in Corning Vycor silica glass, frosted inside and out, transmits over 90 per cent of the far-infrared waves generated. High thermal shock resistance makes it suitable for exposure to rain and snow. It is also unaffected by acid and alkaline atmospheres. Easily installed overhead units are made in 1000, 1500, 2000, 2500, and 3000-w models for 120, 208, 240, and 277-v operation. • **Berko Electric Mfg. Corp.**, 212-40 Jamaica Ave., Queens Village, N. Y.

For more details circle NED-393 B1 on enclosed inquiry slip

NEW from Taylor!



New 395R Indicating Pressure Controller

LOW COST and DEPENDABLE . . .

Extremely sensitive to slight pressure changes. Offers excellent readability, precise set point adjustment and a moderate amount of Sensitivity or Proportional Band adjustment.

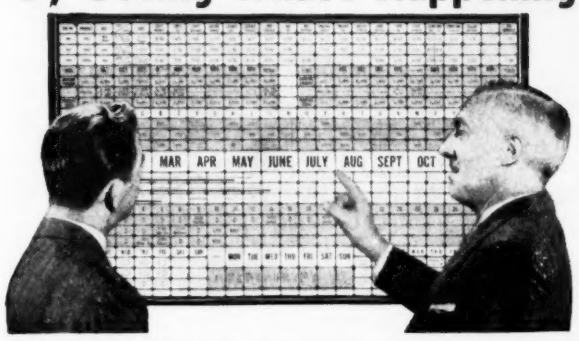
Composed of three sub assemblies, it is designed for easy adjustment and servicing. It can be mounted on top or at the side of the valve and is available with brackets for mounting on valve actuator, valve body or on a panel.

Write for **Bulletin 98363.** Taylor Instrument Companies, Rochester, New York, or Toronto, Ontario.

Taylor Instruments MEAN ACCURACY FIRST

For more details circle NED-395 B1 on enclosed inquiry slip

You Get Things Done Better By Seeing What's Happening



BOARDMASTER VISUAL CONTROL

- ★ Gives Graphic Picture of Your Operations in Color.
- ★ Facts at a Glance - Saves Time and Prevents Errors.
- ★ A Simple, Flexible Tool-Easily Adapted to Your Needs.
- ★ Easy to Use. Type or Write on Cards, Snap on Board.
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GRAPHIC SYSTEMS, Yanceyville, North Carolina

For more details circle NED-396 B1 on enclosed inquiry slip

You Get Faster, Cleaner Cuts with RIGID® TUBING CUTTERS

RIGID Tubing Cutters—Nos. 30 (1" to 3" O.D.), 40 (2" to 4" O.D.).

RIGID Tubing Cutters Nos. 10 (⅛" to 1" O.D.), 15 (⅜" to 1⅛" O.D.), 20 (⅝" to 2⅛" O.D.) ...With Fold-In Reamers.

New RIGID Nos. 105 (⅛" to 1⅛" O.D.) and 205 (⅛" to 2⅜" O.D., Instant Size Adjustment).

Two Styles and a Wide Size Range to Choose From

You cut copper, brass, aluminum tubing and thin-wall conduit faster, cleaner than ever before with these top quality RIGID Tubing Cutters. RIGID No. 315 3-Wheel Cutter available for fast cutting in tight quarters.

Call your Supply House!

THE RIDGE TOOL COMPANY

ELYRIA, OHIO, U.S.A.

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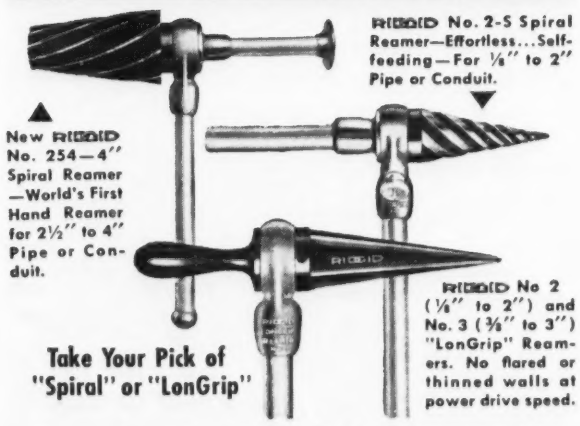
Ream Clean . . . Smooth . . . Fast With Genuine RIGID® Reamers



RIGID No. 2-S Spiral Reamer—Effortless...Self-feeding—For ⅛" to 2" Pipe or Conduit.

New RIGID No. 254—4" Spiral Reamer—World's First Hand Reamer for 2½" to 4" Pipe or Conduit.

RIGID No 2 (⅛" to 2") and No. 3 (⅜" to 3") "LonGrip" Reamers. No flared or thinned walls at power drive speed.

Take Your Pick of "Spiral" or "LonGrip"

For hand reaming, you'll probably prefer the effortless, self-feeding "Spirals"...for power use—"Lon-Grip" five-fluted reamers that won't thin or flare walls at high speeds. All RIGID Reamers have long-life, heat-treated cutting edges and time-saving ratchet and handle.

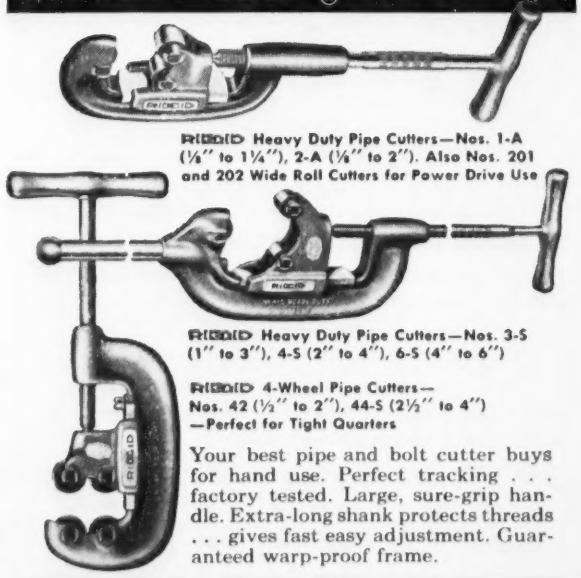
Call your Supply House!

THE RIDGE TOOL COMPANY

ELYRIA, OHIO, U.S.A.

For more details circle NED-394 B1 on enclosed inquiry slip

For Faster Pipe Cutting Use Genuine RIGID® Heavy Duty PIPE CUTTERS



RIGID Heavy Duty Pipe Cutters—Nos. 1-A (⅛" to 1¼"), 2-A (⅛" to 2"). Also Nos. 201 and 202 Wide Roll Cutters for Power Drive Use

RIGID Heavy Duty Pipe Cutters—Nos. 3-S (1" to 3"), 4-S (2" to 4"), 6-S (4" to 6")

RIGID 4-Wheel Pipe Cutters—Nos. 42 (½" to 2"), 44-S (2½" to 4") —Perfect for Tight Quarters

Your best pipe and bolt cutter buys for hand use. Perfect tracking . . . factory tested. Large, sure-grip handle. Extra-long shank protects threads . . . gives fast easy adjustment. Guaranteed warp-proof frame.

Call your Supply House!

THE RIDGE TOOL COMPANY

ELYRIA, OHIO, U.S.A.

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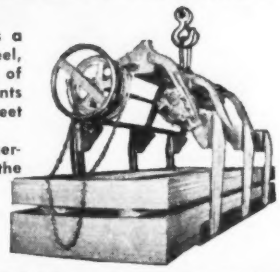
Wide or Narrow...

1 C-F LIFTER HANDLES THEM ALL



Whether your production requires a few or many widths of sheet steel, 1 C-F Lifter, with its wide range of jaw and carrying angle adjustments will probably meet all your sheet handling requirements.
Adjustments are made by the operator in a few seconds, permitting the lifter to shift from wide to narrow sizes almost instantly. Because it can pick up, carry and unload more loads per hour, using less man and crane time than any other method, a C-F Lifter will soon pay for itself.

Bulletin SL-30 gives you the complete story of C-F Lifter advantages to you. Ask for it today. There is no obligation.

CULLEN-FRIESTEDT CO.
1304 South Kilbourn Avenue • Chicago 23, Illinois

For more details circle NED-398 B1 on enclosed inquiry slip

gives these extra benefits:

LARGER VIEWING AREA • LESS LENS BREAKAGE
REDUCED HEAT TRANSFER
LESS WEIGHT, MORE WEARER COMFORT

The CESCO No. 401-17 helmet has a one-piece neoprene lens retainer mounted to the fiber glass shell by moulded channels. An excellent shock absorber, it greatly reduces lens breakage from bumping or dropping. Made to accommodate Cescoweld glass lenses or CESCO Plasti-Weld plastic filters 4½" x 5¼", the 401-17 has over twice the viewing area of regular helmets—especially in downward viewing. When equipped with Plasti-Weld filters, it weighs nearly half a pound less than helmets with glass lenses and metal retainers.

Nylon headgear has cross strap adjustable to height and position. Foam cushion on strap and brow bar gives added comfort.

Write for prices and complete information about the 401-17
CHICAGO EYE SHIELD COMPANY
2715 West Roscoe St., Chicago 18, Illinois

CESCO FOR SAFETY

For more details circle NED-399 B1 on enclosed inquiry slip

2 ELECTRIC COUNTERS

"CS" and "Y" ELECTRIC

The answer to all electric counting requirements

Two Companion Counters . . . Two Sizes . . . Hi-Speed . . . Accurate . . . Long Life . . . Totally Enclosed

Speeds of 1000 counts per minute. Both counters give maximum readability. Design fits all mounting conditions . . . panel mounting or base mounting. Hardened steel working parts for long life and dependability.

New type case for compactness, rigidity, and protection against dust and moisture conditions. Operate accurately over wide current fluctuations.

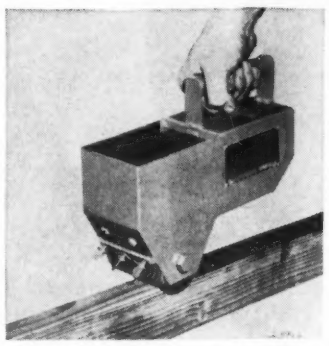
Send for Catalog No. 55

DURANT MANUFACTURING CO.
1922 N. Buffum St. Milwaukee 1, Wis.
22 Thurbers Ave. Providence 5, R. I.
Representatives in Principal Cities

DURANT
COUNTING INSTRUMENTS

For more details circle NED-400 B1 on enclosed inquiry slip

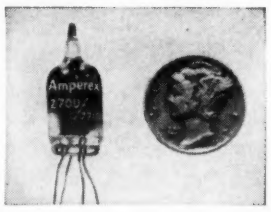
PORTABLE GLUE SPREADER
7-lb unit has 3½-in. long glue roll



Originally designed to apply adhesives to assembled framing members in plywood fabrication operations, this portable, hand-operated glue spreader is suitable for many gluing applications. Unit has a 3½ in. long gluing roll. As shown in picture, it can also be used on narrow edges without "run over." It weighs under 7 lb and holds about 2 qt of adhesive. An adjustable spring-steel scraper controls the amount of adhesive applied. With proper roll grooving, spreader will apply a uniform film of about 60-lb/MSGL of either casein or resorcinol adhesive. • **Black Brothers Co.**, 501 Ninth Ave., Mendota, Ill.

For more details circle NED-401 B1 on enclosed inquiry slip

INDICATOR & TRIGGER TUBES
for computer and industrial uses



Line of gas-filled visual indicator and cold cathode trigger tubes includes numerical display types for application in computers, automation control devices, counters, timers, alarm devices, relays, flame control, and assembly line packaging. Trigger tube requires no warm-up time. Type Z70U/7710 subminiature trigger tube is suited for printed circuit applications. Line also includes numerical display tubes for transistorized circuits, and selector and counter tubes that do not require interstage amplifiers. • **Amperex Electronic Corp.**, 230 Duffy Ave., Hicksville, L. I., N. Y.

For more details circle NED-402 B1 on enclosed inquiry slip

TORQUE CALIBRATOR
has 0.5 to 40 oz-in. range

Primary standard for measuring torque and calibrating torque devices is provided by the portable Model 6400 - T2 torque calibrator. Readings of both the device and the calibrator may be compared directly, with the latter's measurements being taken from the dial window at the top center. Three dual-calibrated scales provide a measuring range of 0.5 to 40 oz-in. or 20 to 2800 g-cm. It uses three accurately calibrated weights and the weight-vector principle. Four tapped holes on the front panel permit mounting special fixtures, such as magnetic clutches or jigs. • **Waters Mfg., Inc.**, Boston Post Road, Wayland, Mass.

For more details circle NED-403 B1 on enclosed inquiry slip

COMPACT UTILITY TRACTOR
7-hp unit with three forward speeds does a variety of jobs

With appropriate attachments, the Cub Cadet utility tractor will mow, sweep lawns, roll, move earth, clear snow, and haul. An air-cooled four-cycle, 7-hp engine drives it through a single V-belt to an enclosed gear drive transmission. Governed speed range of 1000 to 3600 rpm gives it top forward speeds of 2.3, 3.1, and 6.9 mph.

The 62-in. long, 475-lb tractor has 6-in. ground clearance and turning radius of 6.7 ft. It has an engine air cleaner, graduated steering ratio, and single lever control. Three of the most commonly used attachments offered are a 38-in. rotary mower, a 42-in. front-mounted blade, and an 800-lb capacity two-wheel dump trailer. • **International Harvester Co.**, 180 N. Michigan Ave., Chicago 1, Ill.

For more details circle NED-404 B1 on enclosed inquiry slip

BOSTIK® ADHESIVE APPLICATOR

Puts The Solution At Your Fingertips!

- *adhesive flows on, fatigue goes down*
- *slashes costs, increases production*

Vital statistics: Pressure-fed adhesive applicator assures steady supply of adhesive through 6' hose to hand brush. Two-gallon feed tank. Cuts waste; increases production 25% and more. Clean, neat, efficient. Lightweight aluminum brush has fingertip release valve. Price is $114 with one brush. Extra brush and hose assemblies available so three operators can work from one unit. Write to:

Bostik® ADHESIVES
BB Chemical Co., 784 Memorial Drive, Cambridge, Massachusetts
Subsidiary of United Shoe Machinery Corporation USO-114

For more details circle NED-405 B1 on enclosed inquiry slip

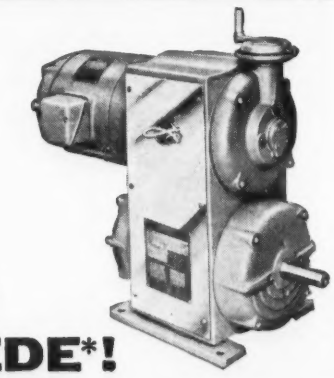
New DICK SUPLEX grease defying belting is a special oil and grease resistant version of the standard DIXYLON, with the same great strength, durability and freedom from stretch. SUPLEX, like DIXYLON, can be made endless in minutes . . . on the job and with simple tools.

PROVEN . . . In actual use in dozens of applications throughout industry . . . *NO STRETCH OR SLIPPAGE WHEN GREASE OR OIL ARE PRESENT!*

SEND TODAY for our catalog filled with money saving facts. Dept. 11B

R. & J. Dick COMPANY, INC.
TOTOWA • NEW JERSEY • CLifford 6-6400
Chicago, Los Angeles (Maywood), San Francisco, Seattle

For more details circle NED-406 B1 on enclosed inquiry slip



The new ALLISPEDE*!

The mechanical adjustable speed drive that can be adapted in the field!

A wrench and screwdriver are all the tools you need to change the ALLISPEDE DRIVE from an upright to a horizontal drive—for floor, wall, or ceiling mounting. Feet, end brackets, control hand wheel, conduit box, and output shaft can be positioned to fit space requirements.

Ideal for equipment and operations requiring economical but precise adjustable-speed control. It's virtually maintenance-free. Features full four-bearing belt support for longer belt life; oversize cartridge bearings; internally-lubricated splined shaft; corrosion-resistant enclosure. Sizes 1 HP and up; speed variations up to 8:1. Write for Bulletin 3600, The Louis Allis Co., 436 East Stewart St., Milwaukee 1, Wisconsin. ASD-119

**ALLISPEDE is a trademark of The Louis Allis Co.*

LOUIS ALLIS

For more details circle NED-407 B1 on enclosed inquiry slip

CARRIES 1000 LB. LOADS
automatically to any station

Will stop at any of numerous stations. Worker selects destination by setting simple, automatic controls. Man at destination can return car by push button when unloaded. Travels safely at 90 feet per minute with loads up to 1000 pounds. Eliminates aisle traffic . . . no operator needed to travel along!

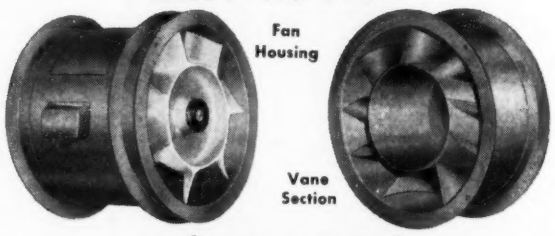
Write for Bulletin C-2.

AMERICAN MONORAIL 1116 E. 200th STREET CLEVELAND 17, OHIO

For more details circle NED-408 B1 on enclosed inquiry slip

another outstanding design development from

Aerovent



direct-connected
vaneaxial fans
with removable vane sections

Engineered for high-pressure, high-velocity air distribution systems, these units feature a unique removable vane section which simplifies installation and permits easy access for routine cleaning and maintenance.

Available in 30 models in sizes 18" to 48" for capacities from 3230 to 67,300 cfm with special design features for all application requirements.

Write for Bulletin 475

Air deliveries of all Aerovent equipment are tested and rated in accordance with established and accepted codes and each unit is guaranteed by the manufacturer to deliver its rated performance. CERTIFIED PERFORMANCE

Aerovent FAN CO., INC.
ASH AND BLAKE STREETS PIQUA, OHIO

For more details circle NED-409 B1 on enclosed inquiry slip

MOSINEE MAKES MAGIC WITH PAPER

Twisting papers—custom-made to your needs

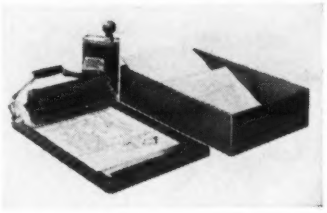
FREE
- Bleached or unbleached . . . natural or in a variety of colors . . . creped or flat tissue . . . with special characteristics such as controlled wet strength and mold-proof, flame-resistant qualities, etc.
- High tensile strength and tear resistance. Carefully controlled caliper and apparent density. Free from shives and other imperfections.
- Made for products such as twine, seat covers, open-mesh bags, welding cord, electric wire coverings, rug yarns, etc.
- Basis weight, caliper and physical strength are uniform from roll to roll . . . from carload to carload.

DATA FILE plus a "PAPER TERMS" DICTIONARY

MOSINEE
PAPER MILLS COMPANY
Mosinee, Wisconsin Write Dept. NED-2

For more details circle NED-410 B1 on enclosed inquiry slip

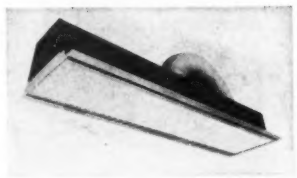
PORTABLE DUPLICATOR
spirit type made in two sizes



Equipped with a carrying case, this portable spirit duplicator is carried around as easily as a portable typewriter. As the machine is operated, impression paper is moistened by rollers with spirit duplicating fluid which picks up carbon from the master which is prepared by typing or writing with a ball point pen. The case also serves as storage for printed and unprinted sheets of copy paper. No. 150 letter size and No. 151 legal size sell for $42.50 and $49.50, respectively. • **Master Addresser Co.**, 6500 W. Lake St., Minneapolis 26, Minn.

For more details circle NED-411 B1 on enclosed inquiry slip

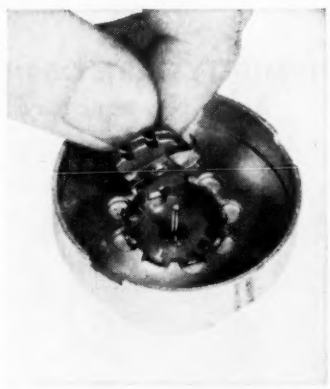
VENTILATING LIGHT FIXTURE
is recessed fluorescent troffer



Combining the functions of a recessed light fixture with a ventilating air diffuser, this air-handling troffer meets UL specifications. Made as supply or return units, models have 2 and 3 lamp designs in 1 x 4-ft and 1 x 8-ft housings and 2, 3, and 4 lamp styles in 2 x 4-ft housings. They are usable with all acoustical ceiling tiles. Snap-up fasteners facilitate installation and servicing. • **Sylvania Electric Products Inc.**, One 48th St., Wheeling, W. Va.

For more details circle NED-412 B1 on enclosed inquiry slip

SMALL SYNCHRONOUS MOTOR
is variable-pole constant-speed unit



This VP-III constant-speed, high-torque, permanent magnet synchronous motor is particularly suited for use in timers, computers, displays, and other electromechanical devices. The small L-shaped arm is riveted on the rotor and is not magnetized. Induced magnetism assures starting, even on dead center. Speed ranges from 10 to 1/60 rpm. Clockwise and counter-clockwise motors operate on 115-v ac and are rated 20 and 40 oz-in. at 1 rpm in standard and high torque models, respectively. A positive drive clutch is offered in most models for uses requiring a manually rotatable shaft. • **Lake City, Inc.**, Crystal Lake, Ill.

For more details circle NED-413 B1 on enclosed inquiry slip

MOSINEE MAKES MAGIC WITH PAPER

Control moisture penetration with MOSINEE moisture-resistant papers

FREE
- You can have papers with the exact degree of moisture resistance you specify.
- Unvarying Mosinee quality permits you to maintain quality control of such products as multi-wall paper bags, electrical insulation, furniture and other product wrappings, balings, building insulation and tarpaulins.
- You get paper made to the same formula and basis weight from roll to roll . . . from carload to carload.

DATA FILE plus a "PAPER TERMS" DICTIONARY

MOSINEE
PAPER MILLS COMPANY
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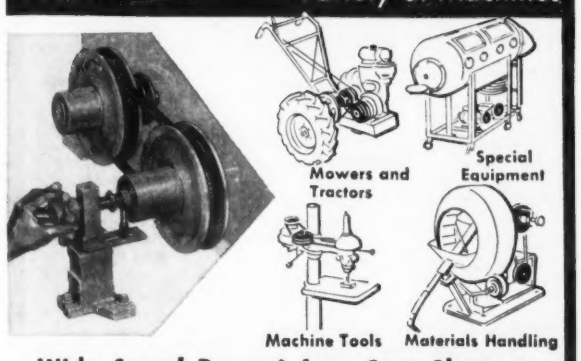
For more details circle NED-414 B1 on enclosed inquiry slip

SPEED SELECTOR
VARIABLE PITCH SHEAVES
Control Speeds on Variety of Machines



Wide Speed Range! Low Cost Sheaves

Speed Selector Sheaves can give your machines or equipment extra wide-range speed control on fixed centers. Efficient, rugged, simple to use — low in cost! Write for Illustrated Bulletin.

CATALOG FREE! WRITE TODAY

SPEED SELECTOR INC.
P.O. BOX 312-N • CHAGRIN FALLS, OHIO

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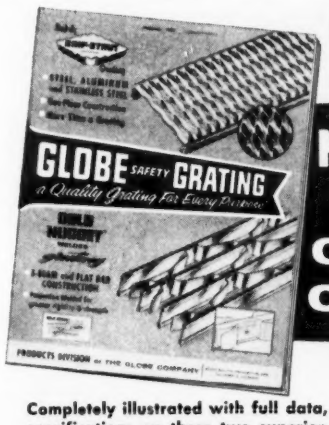


FREE!
New Globe SAFETY GRATING CATALOG

Completely illustrated with full data, load charts and specifications on these two superior open steel floor gratings:

★ **SAFETY GRIP-STRUT GRATING**
Of one piece construction in Steel, Aluminum and Stainless Steel.

★ **GOLD NUGGET WELDED GRATING**
I-Beam and Flat Bar construction—projection welded for greater rigidity and strength.

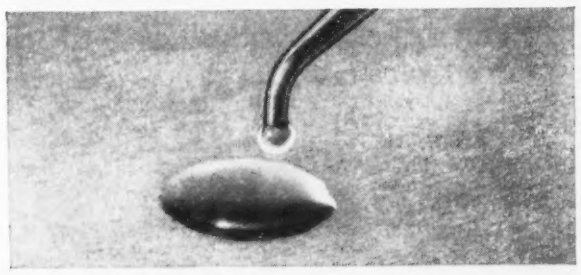
For architects, consulting engineers, plant superintendents, maintenance engineers, safety engineers, contractors, builders—for every safety purpose . . . fire proof, slip proof, maximum strength with minimum weight—cool in summer, warm in winter, self cleaning. A grating for any purpose, any load, any budget.

Write for your free copy TODAY. 112

PRODUCTS DIVISION THE GLOBE COMPANY
4002 S. Princeton Ave., Chicago 9, Illinois

For more details circle NED-416 B1 on enclosed inquiry slip

MOSINEE MAKES MAGIC WITH PAPER



Mosinee noncorrosive, grease-resistant papers for product protection

FREE
- Ideal for barriers, wrappings for electrical and metal parts, drip sheets, factory tarpaulins and floor coverings, liners, etc.
- High resistance to greases and oils, moisture and vapors.
- Good bursting and tear strength.
- Uniform quality from roll to roll . . . from carload to carload.

DATA FILE plus a "PAPER TERMS" DICTIONARY

MOSINEE
PAPER MILLS COMPANY
Mosinee, Wisconsin Write Dept. NED-2

For more details circle NED-417 B1 on enclosed inquiry slip

NEW

LOW-BOY PowRarm!

Holds 50 lbs. . . brings work closer to operator. . . reduces fatigue. . . makes bench operations easier!

The new Low-Boy work positioner is only 5½" high. It brings work closer to the bench. Makes it easier for a seated operator to work accurately and without fatigue. Wilton PowRarms leave the hands free and position work where desired. Available in a wide range of models, mechanical and hydraulic, handling loads from an ounce to 1000 pounds!

TRY POWRARM IN YOUR PLANT FREE! 10 DAY TRIAL . . . NO OBLIGATION, OF COURSE.

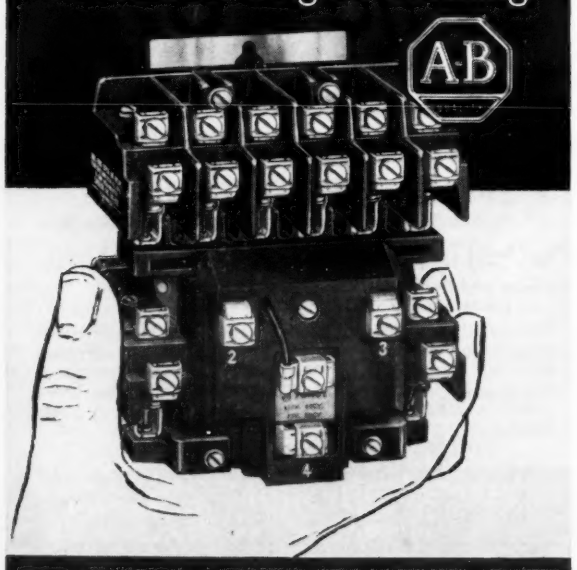
WILTON NED-21

WILTON TOOL MANUFACTURING CO. INC.
SCHILLER PARK, ILLINOIS

Attach this ad to your letterhead and mail for free literature!

For more details circle NED-418 B1 on enclosed inquiry slip

NEW
ALLEN-BRADLEY
Mechanically Held Relay—using Permanent Magnet Latching

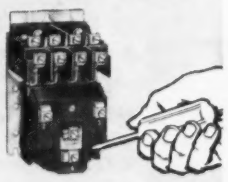


Bulletin 700 Type BRM — These magnetic latching relays are available in from 2 to 6 poles, and all contacts readily convertible from normally open to normally closed—or vice versa.

Here's a "latching" relay that uses a permanent magnet—it does away with the troublesome mechanical latching. It's the new Bulletin 700 Type BRM—and will deliver the same millions of dependable operations for which *all* A-B relays are famous.

Energizing the relay coil closes the relay, and it is held closed by a permanent magnet after the circuit is opened. Energizing the coil in reverse opens the relay. The correct polarity is obtained from silicon diodes within the molded coil cover. The coil is built for continuous duty. Send for full details, today.

These new Type BRM relays can be instantly latched or unlatched from the front. Since basically this relay is the same as the A-B Bulletin 700 Type BR relay, the over-all dimensions are the same.

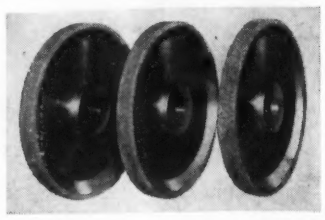


Allen-Bradley Co., 1334 S. Second St., Milwaukee 4, Wis.
In Canada: Allen-Bradley Canada Ltd., Galt, Ont.

ALLEN-BRADLEY
Member of NEMA
QUALITY MOTOR CONTROL

For more details circle NED-419 B1 on enclosed inquiry slip

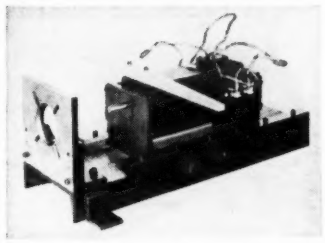
COATED ABRASIVE WHEELS for rubber product finishing



Tire finishing and roll grinding, flash cut-off, and trimming are typical applications for Tunco coated abrasive wheels. They are made by bonding carefully sized fragments of tungsten carbide to a basic tool form. Abrasive grade and shape of tool are readily adapted to meet specific requirements. Tests show that certain operations are performed as much as seven times faster, and tool life is increased as much as sixfold. • **Burgess-Norton Mfg. Co.**, Box 191, Geneva, Ill.

For more details circle NED-420 B1 on enclosed inquiry slip

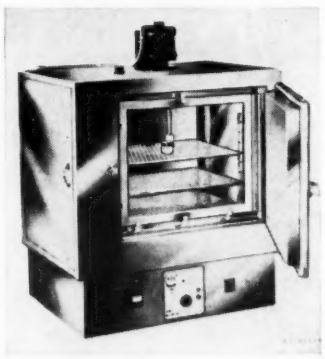
DRIVE MOTOR DYNAMOMETER tests up to 7-hp, 20,000-rpm units



This Model D-1101 dynamometer handles tests at up to 20,000 rpm on motors rated up to 7 hp. Unit consists of an EEMCO motor frame mounted in ball bearings for free movement in the horizontal axis. Across the top of the generator is a 20-in. arm, the end of which is attached to a common weight scale which indicates inch/pounds generated by the test motor. The test motor can be electrical, pneumatic, or hydraulic. A gear box can be installed between motor and generator for slower speeds. Unit requires a 50-v, 20-amp power supply and a rheostat rated up to 4000 w. • **Electronic Specialty Co.**, EEMCO Div., 4612 W. Jefferson Blvd., Los Angeles 16, Calif.

For more details circle NED-421 B1 on enclosed inquiry slip

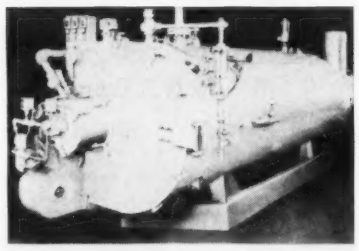
HUMIDITY TEST CABINETS have temperature range to 85° C



Relative humidity from 90 to 99 per cent can be maintained from room temperature to 85° C in these stainless steel temperature and humidity test cabinets. They are equipped with a stepless Power-O-Matic 60 saturable reactor control system and range-lock over-temperature protection. Temperatures below normal ambient are obtained by circulating tap water through a baffle cooling coil. Four sizes have inside dimensions from 13 x 14 x 14 in. to 19 x 37 x 25 in. Double-wall doors are insulated and an inner door has a glass observation window. Air volume is adjustable from 0 to 30 changes per minute. All models have two expanded stainless steel shelves and glass thermometer and hygrometer. • **Blue M Electric Co.**, 138th & Chatham Street, Blue Island, Ill.

For more details circle NED-422 B1 on enclosed inquiry slip

AUTOMATIC FIRETUBE BOILER packaged positive flow type unit



Burner and furnace of the packaged automatic firetube Powermaster Model PF positive flow boiler are located on the left side at the horizontal center line of the unit. The hinged front cover with quick-opening fasteners permits access to heating surface in less than 2 min without disturbing burner, wiring, or piping. Either standard dryback or optional wetback construction is available. PyroFlow burner of the quiet operating boiler is easily converted in the field to burn oil or gas without modification. Five standard sizes with 50, 60, 70, 80, and 100 bhp ratings are available in oil, gas, and combination fired-units. Hot water and steam atomization models will be offered in all five sizes. • **Orr & Sembower, Inc.**, Box 1138, Reading, Pa.

For more details circle NED-423 B1 on enclosed inquiry slip

COMPLETE LINE OF FORGED STEEL
PARKERIZED FITTINGS

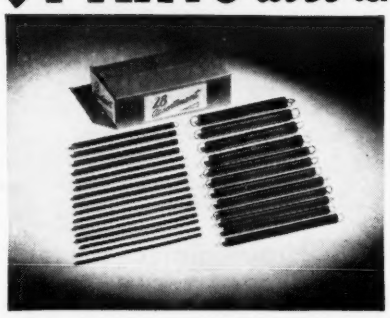
• Carbon and Alloy • Screwed and Socket Weld

Now available! A complete line of Parkerized Fittings from the same reliable source that has supplied you with high-pressure Unions and Valves since 1912. Corrosion-resistant in stock or on the job, these clean-looking fittings are available in sizes from ⅛" to 4". Pressure ratings are 2000, 3000, 4000 and 6000 psi. Order from your local Clayton Mark Distributor today!

CLAYTON MARK AND COMPANY
1900 DEMPSTER STREET · EVANSTON, ILLINOIS · U.S.A.

For more details circle NED-424 B1 on enclosed inquiry slip

Stock SPRING assortments



Our #28 (extension) Spring Assortment folders are now available and yours for the asking. Our #31 (compression) Spring Assortment folders are also available. Ideal for tool rooms and maintenance work.

To overcome the faults of ordinary assortments, which seem to contain "every spring except the one needed", design efforts were not confined to the springs alone; rather, loadings and dimensions were analyzed to assure the user of greater probability in having the correct spring on hand, whatever the application.

Find Your Nearest Paragon Agent In The Yellow Pages

We also manufacture to special order.

Send samples or prints for quotation.

PARAGON SPRING COMPANY
4619 W. Fulton St. • Chicago 44, Ill.

For more details circle NED-425 B1 on enclosed inquiry slip

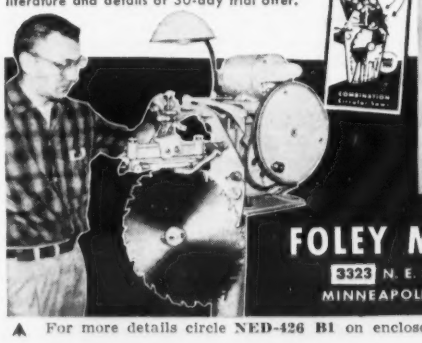
SAVE ON
SAW SHARPENING

If it costs you $25.00 or more a month, let your monthly sharpening bill pay for a FOLEY SAW FILER.

What is your monthly saw sharpening bill? Are you paying $25.00 a month or more, or sharpening saws by hand, or probably using them when too dull? If so, a Foley Saw Filer will soon pay for itself in your plant. With the Model 200 Foley Automatic Saw Filer you can sharpen both "combination" and crosscut circular saws, band saws and hand saws. No experience needed to turn out precision sharpening with a Foley. Increase your sawing production, improve your work quality, prolong the life of your saws—and let your monthly sharpening bill pay for the Foley.

30-DAY TRIAL OFFER

You may try the new Model 200 Foley Saw Filer in your own shop for 30 days. Write for literature and details of 30-day trial offer.



FOLEY MFG. CO.
3323 N. E. 5th STREET
MINNEAPOLIS 18, MINN.

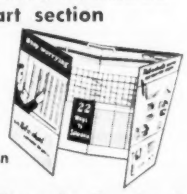
For more details circle NED-426 B1 on enclosed inquiry slip

"Slickest visual control..."

states *Factory* magazine. Entries made directly with marking pencil on a rolling "Mylar" sleeve which *moves with time*, bringing deadlines constantly closer. Entries easily erased.

Send for *FREE GUIDE to Control Methods* with full-scale, sample chart section

Shows how Rol-a-chart controls 22 different items: orders, production, data processing, maintenance, dispatching, sales, etc. Also expert consultation service with no obligation.



Rol-a-chart Division

Conley, Baltzer & Steward, 494 Jefferson Street, San Francisco 9

▲ For more details circle NED-427 B1 on enclosed inquiry slip ▲

NOW Low Cost, Automatic Reproduction of Engineering Drawings . . . from Microfilm

XEROX® COPYFLO® 1824 PRINTER

Makes the savings of a unitized microfilm system possible in small or decentralized engineering departments

Now, you can get a ready-to-use engineering print . . . in seconds and *on ordinary cut-sheet paper* . . . from a microfilm aperture card.

The XeroX® Copyflo® 1824 printer makes 18" x 24" prints, or smaller, at an extremely low cost. Also reproduces on vellum or offset paper masters. Operation is automatic. Prints emerge dry, ready for immediate use, as fast as four a minute.

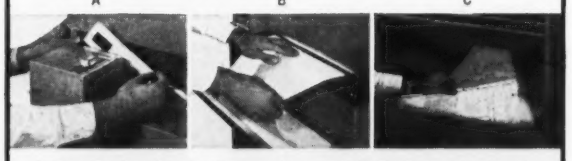
And the quality of reproduction is excellent. The image is sharp black-on-white and won't rub off. There is no odor, no waste, and the paper may be written on with pencil or pen.

Thus, regardless of your engineering-drawing-reproduction volume, you can now enjoy the tremendous savings in time, money, space, and materials of a unitized microfilm system.

Formerly, such economies . . . from $20,000 to $100,000 annually . . . required a substantial reproduction need to make the system feasible.

Today, however, the Copyflo 1824 printer brings the same proportionate benefits to small-volume users as to large. No need now for vast files of engineering drawings. Microfilm aperture cards take only a fraction of the storage space required for other reproducibles. No more costly waiting for prints. And prints made by a Copyflo 1824 printer are so inexpensive, your engineers can discard them after use.

SIMPLE AS A-B-C



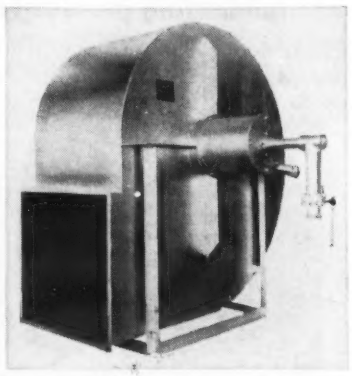
A. Operator inserts microfilm aperture card. B. Next, operator inserts a sheet of ordinary paper or vellum, or an offset paper master. Insertion starts automatic printing and processing cycle. C. The first print is automatically delivered in 30 seconds, subsequent prints (of the same or different drawings) every 15 seconds.

Write today for 1824 booklet giving the full benefits you can expect from a Copyflo 1824 printer. HALOID XEROX INC., 61-206X Haloid St., Rochester 3, N. Y. Branch offices in principal U. S. and Canadian cities. Overseas: Rank-Xerox Ltd., London.

HALOID XEROX®

▲ For more details circle NED-428 B1 on enclosed inquiry slip ▲

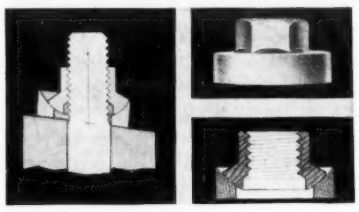
DIRECT AIR HEATERS for air inlet heats to 750° F



Constructed entirely of metal, Type T direct air heaters are designed for maximum air inlet temperature of 750° F. The scroll-type designed heaters can be used for push-through or pull-through operations with drying and heating ovens in chemical, processing, and metalworking applications. They have wide range turn-down. **Midland-Ross Corp.**, Surface Combustion Div., 2375 Dorr St., Toledo 1, Ohio.

▲ For more details circle NED-429 B1 on enclosed inquiry slip ▲

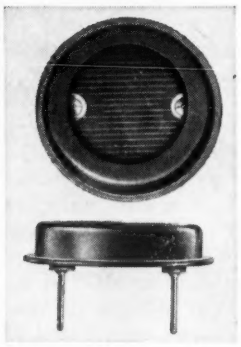
SELF-ALIGNING LOCKNUT seats on slanting surfaces



Full rated strength of aircraft bolts is developed with this self-aligning locknut even though the seating surface slants as much as 8 degrees. This SPS SA16 compensating fastener consists of a hex drive featherweight self-locking nut which swivels within the spherical seal of a precision alignment washer. The full rated strength of 160,000 psi of the nut can be used. It meets Military specs and is available in sizes from No. 10 to 3/8 in. Class B NC and NF threads. • **Standard Pressed Steel Co.**, Box 581, Jenkintown, Pa.

▲ For more details circle NED-430 B1 on enclosed inquiry slip ▲

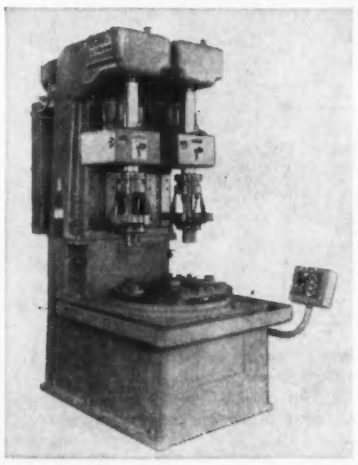
PHOTOCELL delivers 10 ma at 1-50 ft-c of light



Suited for applications such as annunciators, flame failure, smoke detection, light control, or machine control, CDS-9 cadmium sulfide photocell has a resistance of over 1 megohm in darkness and a broad response to visible light. It consists of a cadmium sulfide layer vacuum-deposited over gold comb-like electrodes permanently bonded to a 3/4-in. diameter hard glass disc. Its hermetically sealed case has a 1 1/4-in. diameter. Variations in light intensity cause a change in resistance, altering the current flow and permitting it to act as a light-activated switch. At illumination levels of 1-50 ft-c, the photocell will directly control relays drawing up to 10 ma. It is nonpolar for up to 500 v dc or 350 v ac. • **Pioneer Electric & Research Corp.**, 743 Circle Ave., Forest Park, Ill.

▲ For more details circle NED-431 B1 on enclosed inquiry slip ▲

TWO-SPINDLE MACHINE for drilling and tapping uses



At the touch of a button, the Cleereman Series A two-spindle drilling and tapping machine drills and taps a hole in a complete automatic cycle. Two or more columns are mounted on a special base of the "building block" type machine. While the tools are working, the operator removes the finished part and loads another at the loading-unloading station on the rotary type index table. Ease of set-up, pick-off change gears, and broad speed, feed, and tap lead ranges suit it for small lot or production work. • **Jackson-Fotsch Co.**, 7350 W. Lawrence Ave., Chicago 31, Ill.

▲ For more details circle NED-432 B1 on enclosed inquiry slip ▲

Direct-Air VALVES for Easy AUTOMATION

COMPLETE VALVE CATALOG Ready!

MEADMATIC

4-way pilot-operated air valve for direct or remote control—no delicate electrical hookup needed.

A light momentary touch on limit switch actuates main valve piston—response is instantaneous! Catalog free.

THE MEAD MAN CAN HELP YOU CUT COSTS Now!

Write today!

MEAD SPECIALTIES COMPANY

4114 N. Knox Ave., Dept. 1221, Chicago 41, Ill.

PATHFINDER IN AIR POWER AUTOMATION

▲ For more details circle NED-433 B1 on enclosed inquiry slip ▲

Supplies cost about 1¢ per copy with a XeroX® 914 Office Copier. No wet chemicals, nor expensive coated papers are required, and there are no exposure adjustments. With this copier you make copies directly onto ordinary paper (plain or colored) or selected offset masters.

Copies are as good as originals. So superior is the quality of reproduction that many people say copies look better than the original. The XeroX 914 copies anything the eye can see; copies all colors—even reds and blues—with sharp black-on-white fidelity. And without damage to originals.

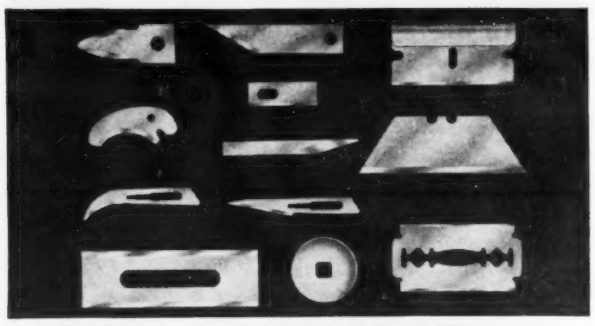
Versatile and fast. Copies in seconds anything written, typed, printed, stamped, or drawn. Business, industry, and government use it to copy letters, documents, drawings, financial statements, reports, freight bills, charts, articles, advertisements, even pages in bound books.

What users like about the 914 . . . "Automatic, copies everything." "Superb quality of copy." "Worth half a girl more." If you spend $50 or more per month for copying supplies, a XeroX 914 can be of real benefit to you.

Write to HALOID XEROX INC., 9X-205 HALOID STREET, ROCHESTER 3, NEW YORK.

HALOID XEROX®

▲ For more details circle NED-434 B1 on enclosed inquiry slip ▲



WHY RE-SHARPEN?

CRESCENT disposable knife blades are custom engineered to your specifications — made of Swedish surgical steels in any length required, width to 2¼ inches and thickness to 0.050-in.

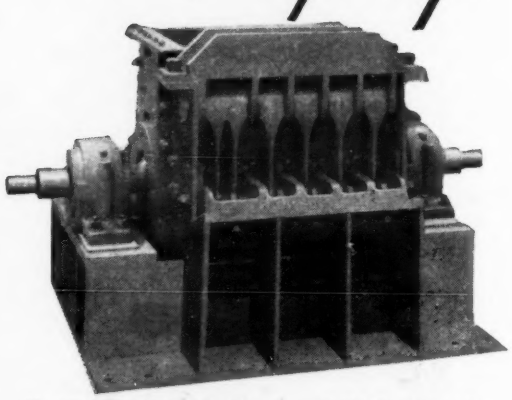
CRESCENT disposable knife blades with razor-honed edges eliminate the cost of re-sharpening dull knives — give you higher production, more uniform product, greater efficiency, and longer cutting life.

CRESCENT engineers will solve your cutting problems, too. At no obligation, write and specify the type of knives you use, how many, what you cut, and how.

Write to: Engineering Department
CRESCENT MANUFACTURING CO.
Fremont, Ohio

For more details circle **NED-435 B1** on enclosed inquiry slip

HOG GRINDS Anything!



The NEW KC MODEL of the Montgomery BLO HOG grinds bark — bricks — wire and steel strapping — nails — bolts — rubber tires — paper — plaster board — tile — dunnage — and many other items for fuel or automatic waste disposal systems.

Sizes range from 21" with capacity near 20,000 lbs. per hour to 57" model with 100,000 lbs. per hour capacity.

BUILT-IN PROTECTION AGAINST HEAVY TRAMP STEEL. PUNCH AND DIE ACTION — "DO THE JOB" GUARANTEE.

Manufactured by
JACKSONVILLE BLOW PIPE CO.
P.O. Box 3687 • Jacksonville, Florida
Telephone EL 5-5671

For more details circle **NED-436 B1** on enclosed inquiry slip

LARGE WORK SPACE
Bench Oven 3' x 3' x 3'

MODEL 333

Another
GRIEVE - HENDRY STANDARD

Well constructed, efficient Bench Oven with Large Work Space. Especially adaptable to production line work on large units that require heat processing. Work space 36" x 36" x 36". Temperature range to 350° F. 1250 CFM forced air circulation. Stand available. Construction changes to suit needs. No engineering charges. Write for Bulletin BH-300.

Quick Quotations
Prompt Delivery
Reasonable Prices
on Ovens Built to Specifications
OTHER STANDARD MODELS — TO 1000 F—
$121.50 AND UP

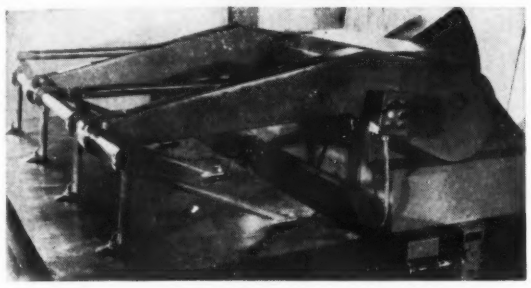
Specialists in Heat Process Equipment

GRIEVE-HENDRY CO.
1353 N. Elston Ave., Chicago 22, Ill.

For more details circle **NED-437 B1** on enclosed inquiry slip

AUTOMATED LOADER-UNLOADER
reduces idle time of large plastic laminating presses to about 30 sec

Production cycle of large hydraulic, multiple-platen presses engaged in making plastic laminates in sheets up to 6 x 12 ft is speeded up with installation of this

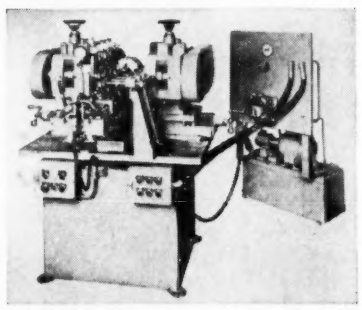


Canadian automated loading and unloading system. In the average press cycle time of 80 min, as much as 30 min is required for preparation of material and caul-plates, feeding, and removal of finished product. This press idling time is cut down to about 30 sec by the system.

Only two sets of caul-plates and only two men are required per press. Operator works in a remote-control room and may control up to five 15-platen press installations. The system is composed of a self-contained caul-turning machine (shown in picture); a loading unit for placing laminate sheets or "books" between press platens; an unloading unit for removing cured books; and a transfer conveyor. Installations currently in operation have increased productivity up to 30 per cent. • **Pathex Inc.**, 1103 Liberty Bank Bldg., Buffalo 2, N. Y.

For more details circle **NED-438 B1** on enclosed inquiry slip

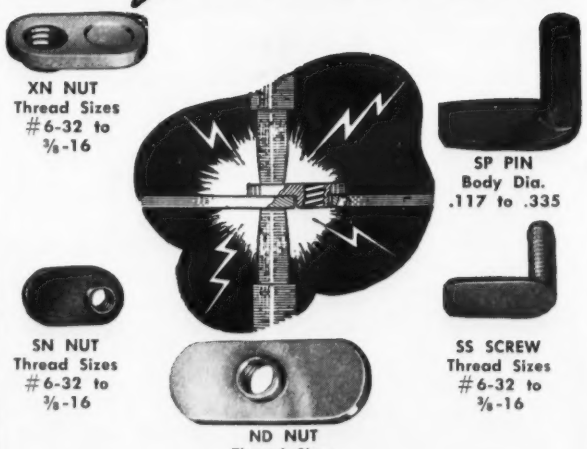
DUPLEX HALF-MILL
of "building block" design



Both sides of three ½-in. thick steel plates are squared simultaneously with this semiautomatic duplex half-mill. Variations of this highly flexible, "building block" machine can perform slotting, keyway cutting, sawing, face or slab milling, boring, and other operations. The two No. 40 taper-spindle milling heads are powered with 1½-hp 1200-rpm drive motors with selective speeds to 2370 rpm. Mills have manual screw vertical adjustment and are mounted on manually positioned cross slides. The 10 x 42-in. table and box type slide is powered by an 18-in. stroke hydraulic system. • **U. S. Burke Machine Tool Co.**, Brotherton Road & Pennsylvania R. R., Cincinnati 27, Ohio.

For more details circle **NED-439 B1** on enclosed inquiry slip

OHIO SPOT WELDING FASTENERS



If you do spotwelding you can attach OHIO Spot-weld Fasteners at the same time for faster, trouble-free assembly.

Samples and information available upon request.

The WELD FASTENERS Primary Fastener in Fastener Assemblies

THE OHIO NUT AND BOLT CO.
14 FIRST STREET BEREA, OHIO

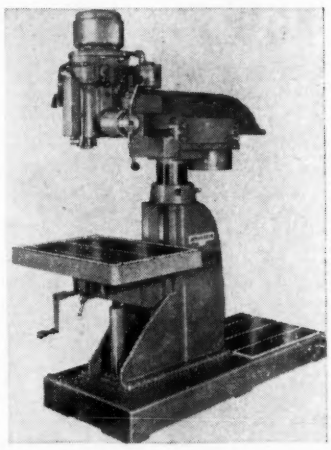
For more details circle **NED-440 B1** on enclosed inquiry slip

ROOF VENTILATING FAN
adjusts to exhaust or recirculate

Recirculation of heated air in winter or exhaust of hot air in summer is possible with this Model ER dual-purpose industrial ventilator. Easy to install and simple to operate, it has a three - position reversing switch to control the fan direction. During the winter, the Diverto-Damper seals the top against heat loss. On the recirculating cycle, the fan blows the air downward. Wasted heat trapped under the roof is pulled into the fan and blown down through the diffuser openings for draft-free ventilation at the working level. In exhaust position, the air column lifts the damper. Sizes range from 3000 to 23,000 cfm. • **N.T.W. Corp.**, Genie-Air Products Div., 3001 E. 11th St., Los Angeles 23, Calif.

For more details circle **NED-441 B1** on enclosed inquiry slip

RADIAL DRILLING MACHINE
heavy-duty unit has 16 speeds in four ranges from 34 to 1640 rpm



Direct gear drive of this heavy-duty precision radial drilling machine provides 16 spindle speeds in four optional ranges from 34 to 1640 rpm. Drill column is supported in a housing that assures long bearing support and added rigidity. Radial arm or ram is available in 3 or 4-ft lengths and swings through 360 degrees for positioning at any location over the 20 x 40-in. work table in front or over the 25 x 42-in. work platform at the rear.

When operator locates the drill, rotation of column and ram movement are simultaneously locked by a button-actuated lock. Column can then be moved up or down, providing a 6 to 54-in. spindle-to-work distance without losing drill location. Holes up to 22 in. deep can thus be drilled. Feed mechanism is infinitely variable from 0 to 12 ipm at any spindle speed. Tool ejector is optional, whereas an automatic tapper is an extra. • **I. O. Johansson Co.**, 7248 St. Louis Ave., Skokie, Ill.

For more details circle **NED-442 B1** on enclosed inquiry slip

NEW, LOWER PRICES on ROSSPUNCH Perforating Pins

PLUS Accuracy ± .0003
Over 120 stock sizes
"Jet-Fast" delivery

The standardized ROSSPUNCH is stocked in tool steel *and* high speed tool steel. Let us supply you at one-third the cost of making them yourself—a 60% saving! Your complete satisfaction guaranteed.

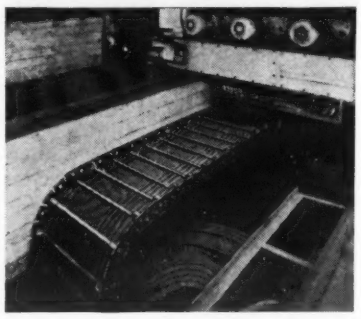
FREE! SAMPLE PUNCH
specifications, stock and price lists are yours upon request. Write us today . . . start saving tomorrow.

TWX RO 655

ROSS Equipment co. inc.
71 COLLEGE AVENUE, ROCHESTER 7, N. Y.

For more details circle **NED-443 B1** on enclosed inquiry slip

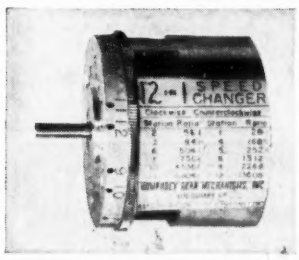
FLEXIBLE CARRIER
for power, oil, water, gas lines



Used in either horizontal or vertical planes, Powertrak self-supporting flexible carrier safely conveys electric power, oil, air, water, and gases to equipment in motion. Chance of crimping, breaking, straining, or scuffing of cables and hoses is eliminated because all lines are conveyed at once by the completely enclosed system. Carrier has an unsupported travel range of 40 ft at speeds up to 160 fpm. Longer travel lengths and higher travel speeds are possible. Carrier shown in picture carries 32 cables on a sheet rolling mill. • **Gleason Reel Corp.**, 800 Horicon St., Mayville, Wis.

For more details circle **NED-444 B1** on enclosed inquiry slip

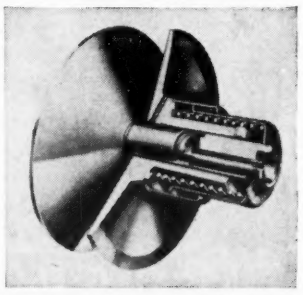
SPEED CHANGER
flip of dial selects desired ratio



This direct-transmitting gear mechanism is adaptable for speed selection in electronic transmitting and remote control apparatus, radar, computers, signalling and switching devices, chart drives, servomechanisms, conveyors, and controlled automation. Each unit is a 12-in-1 speed changer, with desired ratio selected with a flip of the dial. When two units are coupled, 144 different speed ratios are offered, and three units provide 1728 speed combinations. Both clockwise and counter-clockwise rotations are available. • **Humphrey Gear Mechanisms, Inc.**, 20-02 Utopia Parkway, Whitestone 57, N. Y.

For more details circle **NED-445 B1** on enclosed inquiry slip

VARIABLE PITCH PULLEY
speed adjusts over a 3-to-1 ratio

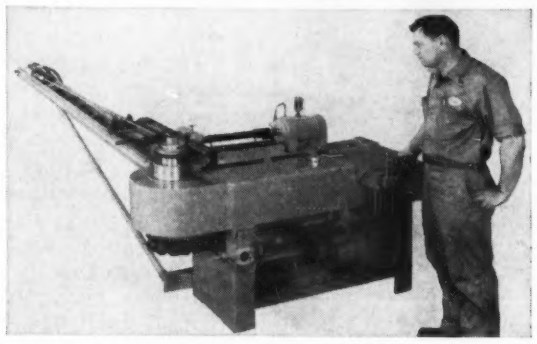


Simple, dependable variable speed operation is obtained by equipping standard electric motors with this variable pitch pulley. It is available in ratings from 1 to 15 hp. Output speeds range from 2200 to 141 rpm, with a 3-to-1 speed variation and using 1750 or 1160-rpm motors. • **Sterling Electric Motors, Inc.**, 5401 Telegraph Rd., Los Angeles 22, Calif.

For more details circle **NED-446 B1** on enclosed inquiry slip

BENDING MACHINES
have 1, 2, and 4-in. pipe capacities

The MR1 Series of pipe bending machines has removable mandrel support beams and can be operated with or without mandrels. A hinged clamp die secures

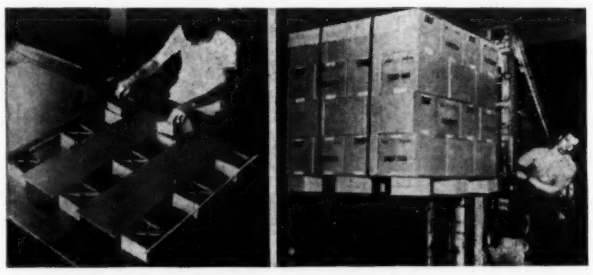


the work to the form die with 360-degree contact. Bends free of galling, scratches, or abrasions are made with pressure exerted by the JIC hydraulic system. Uniformity of identical bends is controlled within 1/4 degree by a bend angle selector. Available models have 1, 2, and 4-in. capacities. The 2-in. model shown has a capacity of 2-in. IPS stainless steel pipe, or 3 1/2 x 0.065-in. stainless steel tube. • **Costello Engineering Corp.**, 1150 W. 135th St., Gardena, Calif.

For more details circle **NED-448 B1** on enclosed inquiry slip

DISPOSABLE CORRUGATED PALLET
easily assembled with stapling gun, carries strapped loads to 10,000 lb

Weighing only 3 to 4 lb, depending upon size, the Econo-Pal corrugated pallet is a low-cost, easily transported base capable of carrying strapped loads as heavy



as 10,000 lb. When unitized with a load, it can be shipped by any transportation method. Pallet can be assembled quickly by folding and stapling the die-cut and scored sheet as directed. An assembly jig is optional.

Nine different corrugated pallet leg inserts provide added strength and meet a wide variety of compression strength requirements. Leg design permits four-way entry by lift trucks. With special inserts, compression strength to 51,000 lb is attainable. Pallets are offered in ten standard sizes as well as custom productions. Various grades of corrugated board meet special needs. • **Packaging Corp. of America**, 1632 Chicago Ave., Evanston, Ill.

For more details circle **NED-449 B1** on enclosed inquiry slip

WEAR RESISTANT THOMSON

AVOID the HIGH COST and difficulty of fabricating long, hard & straight parts by conventional methods...

60 Case hardened and ground

SHAFTS, ROLLS, GUIDE RODS and other long-round parts ELIMINATE WEAR and REDUCE COST

ADVANTAGES of 60 Case
- COST REDUCTION
- HARD BEARING SURFACE
- NICK- & DENT-PROOF
- ACCURATE DIAMETERS
- GROUND FINISH
- STRAIGHT PARTS
- DELIVERY FROM STOCK
- ADDED STRENGTH
- UNIFORM HIGH QUALITY

60 Case material has a Rockwell 60C surface hardness which is essential to reduce wear.

Big savings are offered over conventional methods which are plagued with erratic warpage, straightening and resultant grinding problems. Finished 60 Case parts frequently cost less than the scrap losses that result from conventional methods.

Stocked in 1/4" to 4" diameters. Available with or without special machining. *Write for literature and name of your local representative.*

TYPICAL 60 Case PARTS

GUIDE RODS, SHAFTING, ROLLS, TRAVERSE RAILS, PISTON RODS, ARBORS, LEADER PINS, TIE RODS, KING PINS, AXLES, CONTROL RODS, GUIDE POSTS, MANDRELS, BEARING ROLLERS, SPINDLES

For emergency needs call collect MAnhasset 7-1800

THOMSON INDUSTRIES, Inc.
Dept. C2, Manhasset, New York

PARTS HARDENED to 60 C...increase life...reduce cost!

For more details circle **NED-451 B1** on enclosed inquiry slip

WIRE CLOTH

for FILTERING SIZING STRAINING TESTING

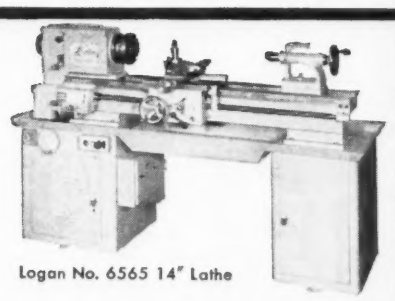
In all metals, all weaves . . woven to the highest accuracy standard in the industry. Hundreds of meshes, weaves and metals to fit your specific need. Years of processing experience to help you pick the right wire cloth for your application. Write for Bulletin FC or write us about your problem. Fast deliveries, best cloth, lowest cost when you call on NEWARK.

NEWARK for ACCURACY Newark Wire Cloth COMPANY
351 Verona Avenue • Newark 4, New Jersey

For more details circle **NED-452 B1** on enclosed inquiry slip

its specifications add up to high production capacity

Logan 14" Lathe
- Spindle speeds to 2000 rpm.
- 1½" Levermatic collet chuck capacity
- 14⅝" swing over bed
- 9" swing over saddle cross slide
- 40" between centers



Logan No. 6565 14" Lathe

Logan's generous combination of high-quality features means greater reliability, accuracy, and longer life.

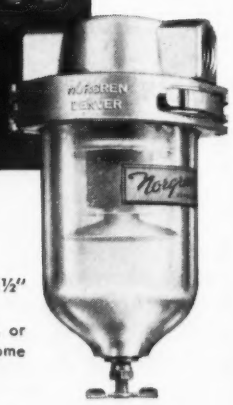
- Oversize spindle—1⅝" bore—four super-precision ball bearings—built-in preload
- Variable-speed drive—change speed with work turning—without shifting belts
- Warp-free lathe bed—high, strong walls braced by oversize ribs withstand heaviest stresses; two V-ways, two flat ways flame-hardened, precision-ground

These and many more reasons prove Logan's greater working capacity. The specifications tell the story. Write for complete information.

LOGAN ENGINEERING CO.
Dept. Q-261, 4901 Lawrence Ave., Chicago 30, Ill.

For more details circle **NED-447 B1** on enclosed inquiry slip

NORGREN COMPRESSED AIR-LINE FILTERS



109 models to choose from

- For 1/8", 1/4", 3/8", 1/2", 3/4", 1", 1 1/4", 1 1/2" pipe sizes.
- Choice of 4 filter elements — 74, 64, or 25 micron — 5 micron available in some sizes.
- Transparent or metal bowls.
- Wide operating pressure and temperature range — 5 psi to 250 psi, and to 250° F.
- Automatic or manual drain.
- Effective removal of damaging liquids and solids.

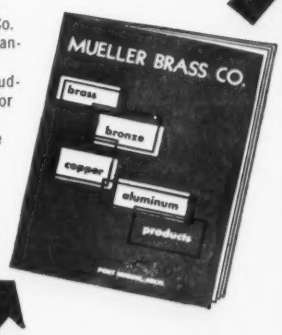
FREE CATALOG! For complete information about the money-saving features of the Norgren complete line of manual drain and automatic drain filters, call your local Norgren Representative listed in your telephone directory or write for free illustrated brochure NA-1.

C. A. NORGREN CO.
3405 SOUTH ELATI ST., ENGLEWOOD, COLORADO

For more details circle **NED-450 B1** on enclosed inquiry slip

THIS MANUAL GIVES YOU THE FACTS ABOUT **ONE DEPENDABLE SOURCE** FOR A WIDE VARIETY OF BRASS, BRONZE AND ALUMINUM PRODUCTS.

This manual contains technical information on Mueller Brass Co. production processes for the manufacture of brass, bronze and aluminum fabricated parts including forgings, special alloy rod for screw machine products, impact extrusions, formed tube assemblies, sintered metal parts and plastic parts as well as products for the plumbing and heating and the refrigeration and air conditioning industries. Send for your copy today.



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Please send me Mueller Brass Co. Manual No. FM 3017.
Name
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City State

MUELLER BRASS CO.
PORT HURON 37, MICHIGAN

• Centerless Ground to extreme accuracy. Special new-type Equipment, assures concentric chamfered or formed ends—no cut-off burrs.

Dowel—Straight—Countersunk—Angle and Spherical Ends .020" to .1875" Diam. .125" to 2" Length

Precise Specifications Accurately met. If requested on order, a surface analysis tape, showing surface in micro-inch measurements, will be furnished. Tape magnifies 39,370 times.

Small orders or volume production to your exact requirements and material specifications.

Quality Precision Work!
Prompt Deliveries!
Prices you will like!
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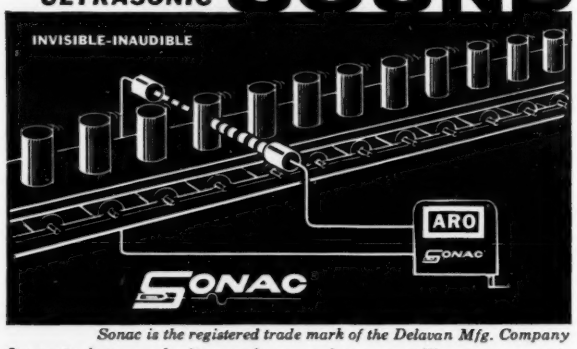
Phone: ENdicott 1-3412

For more details circle NED-453 B1 on enclosed inquiry slip

COUNT MEASURE CHECK WITH ULTRASONIC SOUND



Sonac is the registered trade mark of the Delavan Mfg. Company

Sonac's beam of ultrasonic sound waves will sense, count, control or monitor under conditions that foil other sensing and switching devices. Sonac doesn't need to see . . . requires no light of any kind . . . will work in contaminated atmospheres, darkness, and can even be piped through flexible hose or tubing. Sonac is unaffected by industrial vibration. Fully transistorized amplifier and hermetically sealed sensor construction require no maintenance. Easy to install. For complete information on new Sonac Ultrasonic Control, call, wire or write Aro today.

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For more details circle NED-454 B1 on enclosed inquiry slip

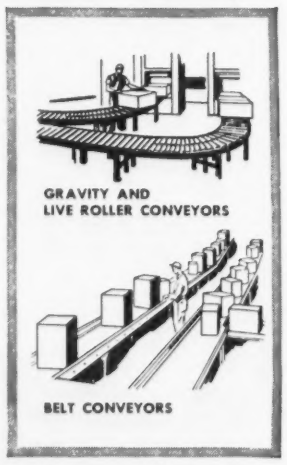
A modern "build-it-yourself" conveyor system for plants that wish to save money

● Reduce your materials handling costs with a pre-engineered *Handidrive* system. Your own men can plan and install it in your plant or warehouse . . . quickly, easily, and inexpensively.

Handidrive is the most complete, integrated line of package conveying units and sub-assemblies on the market. All are standard off-the-shelf items for immediate delivery.

Free 24-Page Handbook describes components and tells how to determine slopes, widths, roller spacing, capacity, power needs.

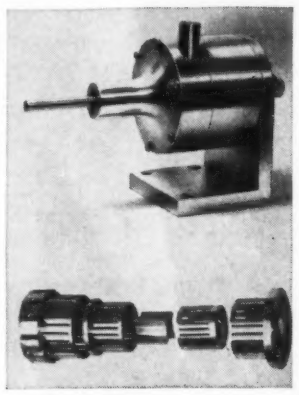
Write Today for your copy.



Standard Conveyor
310-B Second St. • North St. Paul 9, Minnesota

For more details circle NED-455 B1 on enclosed inquiry slip

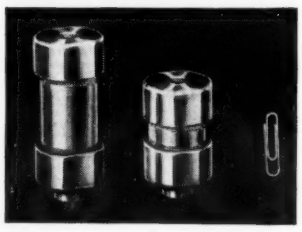
BLENDING PUMP
emulsifies, mixes various products



Shear Pumps, made in 5 to 200-gpm capacities, continuously blend wet with wet or wet with dry products. Pump consists of a variable combination of rotors and stators and delivers a minimum of 750,000 shearing cuts per minute. It combines intimate blending with centrifugal pumping action that develops a suction lift and discharge head. Aeration can be incorporated if desired. Outlet valve controls dwell time for reaching particle size uniformity. Pump is available in a range of rotor types, in single, double, or triple-stage units operable at variable speeds. Sanitary design adapts unit to dairy, food, and chemical applications. • **Hobam Inc.**, Box 91-102, Buffalo 17, N. Y.

For more details circle NED-456 B1 on enclosed inquiry slip

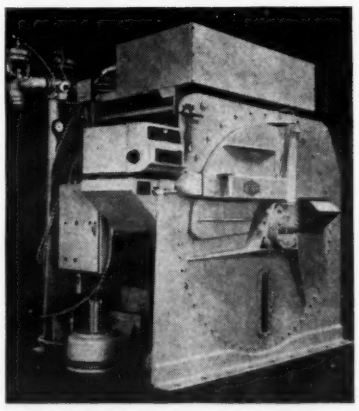
MIDGET POWER CLAMPS
have ½ and 1-in. strokes



Clamping of small fixtures, parts, and machines is expedited by using Midget PowRlock power clamping tools, eight of which can be powered by one booster. Line includes two sizes of hydraulic heads and three holders. No. 2100 and 2800 heads have ½ and 1-in. strokes, respectively. The holders are parallel, 45 and 90 degrees. With an air line pressure of 100 psi, the clamps develop piston thrust varying from 1050 to 1900 lb, depending upon which booster is used. • **Wilton Tool Mfg. Co.**, 9525 Irving Park Rd., Schiller Park, Ill.

For more details circle NED-457 B1 on enclosed inquiry slip

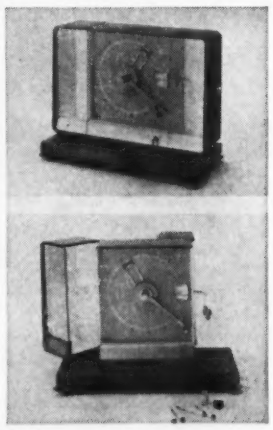
WASHER-EXTRACTOR
for wiping rags, industrial clothing



High speed, two-stage water extraction and a large loading door are features of this 300-lb capacity combination washer-extractor. It is designed to perform short duration intermediate extraction that requires a total time of only 1 min. Automatic supply injection is available. The machine requires 100-amp service for operation on 220 v, three-phase, 60 cycle ac. • **Pellerin Milnor Corp.**, Box 19264, New Orleans 19, La.

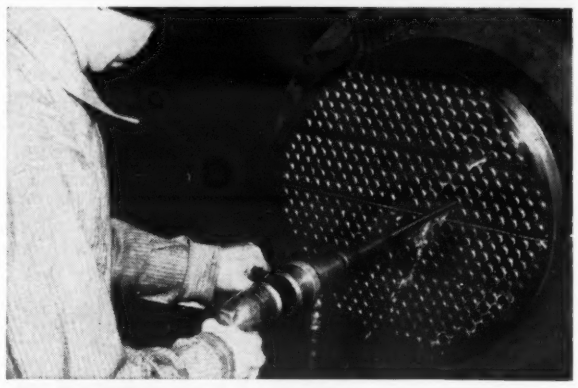
For more details circle NED-458 B1 on enclosed inquiry slip

PRECISION BALANCE
has many weighing, counting uses



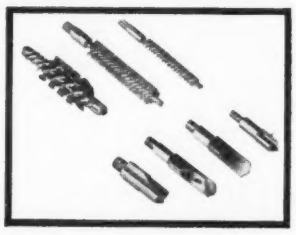
Double-hook design Model L precision balance has a range as low as 0 to 3 milligrams or as high as 0 to 50 grams. By counterweighing, loads up to three times scale value can be weighed. A lock and release lever on the beam facilitates rapid repetitive weighings at any value on the dial. A vernier index permits accurate reading to one-tenth of a scale division. Accuracy within ±0.1 per cent is made possible by use of sapphire ring jewels. A micrometer zero adjustment is incorporated. Weighing only 10 lb, the 13 x 6 x 10-in. instrument has application in weighing, counting by weighing, and production weighing in many types of plants and laboratories. • **Federal Pacific Electric Co.**, 50 Avenue L, Newark 1, N. J.

For more details circle NED-459 B1 on enclosed inquiry slip



ELLIOTT lightweight, air-operated tube cleaner for heat exchangers and condensers

Pistol-grip, easy to handle. High-speed air-driven motor, trigger control, gear reduction to 1500 rpm. Governor prevents shaft whip. Built-in oil reservoir. Integral water-feeding attachment. Brushes and heads (right) for various requirements. Send for Bulletin.

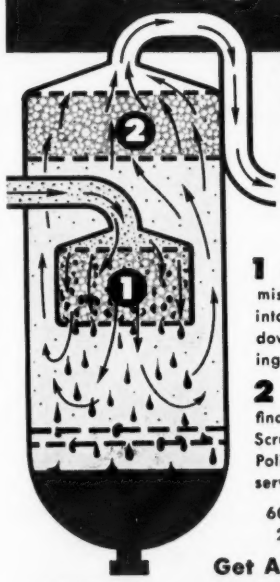


YI 6

ELLIOTT COMPANY
GENERAL OFFICES: JEANNETTE, PENNSYLVANIA
PLANTS AT: Jeannette and Ridgway, Pa.; Springfield, Ohio; Newark, N. J.

For more details circle NED-460 B1 on enclosed inquiry slip

NEW! *King* COMPRESSED AIR FILTERS



Remove ALL Harmful Traces of Dirt, Water and Oil — *Go Months Without Maintenance!*

HERE'S HOW:

1 WET SCRUBBER CARTRIDGE causes mist and fog to form large drops that fall into sump. Takes out dirt, water and oil down to less than 2 microns. Self-cleaning; has almost unlimited service life.

2 DRY POLISHER CARTRIDGE gives the final touch; leaves the air extra-clean. Scrubber does nearly all the work, so Polisher also has almost unlimited service life.

60 MODELS — FOR EVERY SERVICE
20 to 200 scfm — ¼" to 2" NPT

Get ALL the facts! Write today for free KING FILTER CATALOG.

KING ENGINEERING CORP.
3223 S. State St. Ann Arbor, Mich.
LIQUID LEVEL GAGES, MANOMETERS, ACCESSORIES—SINCE 1937

For more details circle NED-461 B1 on enclosed inquiry slip

"If you can't stand the heat —stay out of the kitchen"

MEYERCORD HEAT RESISTANT LINE OF DECAL TRANSFERS
H-R Heat Resistant
H-R-T Heat Resistant Tubes
S-H-R Sustained Heat Resistant
H-H-R High Heat Resistant

Ordinary Decals, when used as trademarks or operating instructions on products exposed to heat range of 150°F to 220°F will discolor, deteriorate and disappear.

Meyercord's exclusive H-R line of transfers—Heat-Resistant—will withstand operating temperatures up to 1,000°F. Four different types of H-R transfers are available for the job.

Write for Technical Bulletin No. 600. For Heat-Resistant markings specify Meyercord's H-R line.

Write today . . . on company letterhead, please.

the MEYERCORD co.
Dept. B-316—5323 W. Lake Street, Chicago 44, Illinois

For more details circle NED-462 B1 on enclosed inquiry slip

If you need centrifugal pumps with these characteristics, this reference book is for you: • PRESSURES: to 21 psi in single stage pumps; to 70 psi in multi-stage types. • FLOWS: capacities to 70 gpm in single-stage pumps, to 10 gpm for multi-stage models. • INSTALLATIONS: a wide range of transfer, recirculation, feed, boost and filter-pumping applications.

All told, 50 different models are described in full — and you get a wealth of technical data as well. Write for new catalog 130 now!

EASTERN INDUSTRIES, INC.
100 SKIFF STREET, HAMDEN, CONN.
WEST COAST OFFICE 4203 Spencer St., Torrance, Calif.

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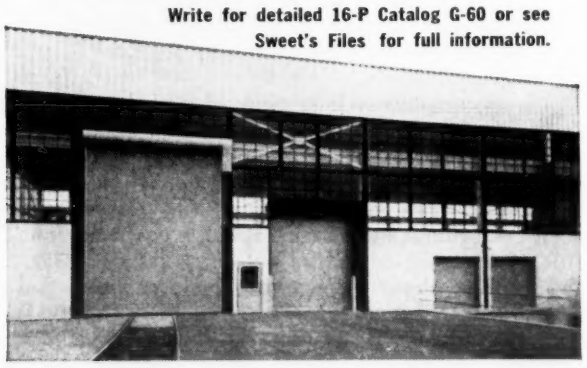
Mahon rolling steel doors

SAVE SPACE
SAVE SERVICE
SAVE COSTS

in sizes and types to fit your application

Rolling Steel Doors are the proven and best way of closing any type opening. For a plant, distribution center or loading dock—in new or remodeled facilities—Mahon has the right Door for the job. Rugged, easy operating, Bonderized (and synthetic baked enamel protected) Steel Doors, power or manually operated, will give you long, trouble-free service. If damaged, they are completely repairable by an experienced Mahon crew . . . service contracts available.

Write for detailed 16-P Catalog G-60 or see Sweet's Files for full information.



MAHON
THE R. C. MAHON COMPANY • DETROIT 34, MICHIGAN
Manufacturing Plants—Detroit, Mich. and Los Angeles, Calif.
Sales Offices or Representatives Located in All Principal Cities

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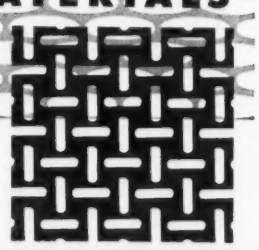
NEW decorative patterns

H & K PERFORATED MATERIALS



Just three of H & K's new patterns are illustrated here. Many more contemporary and traditional designs are available in steel sheets for immediate shipment from stock. And there is also a vast selection of additional patterns and open areas which can be custom fabricated from existing dies.

Send for General Catalog 75 and/or Stock List Brochure

FIND NEAREST H & K AGENT IN THE 'Yellow Pages'

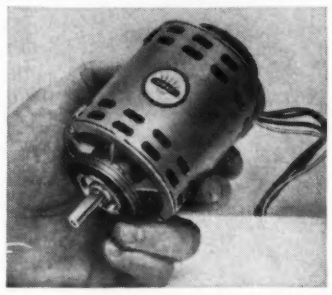
Listed Under "Perforated Metals"

THE Harrington & King PERFORATING CO. INC.

Chicago Office and Warehouse • *New York Office and Warehouse*
5658 Fillmore St., Chicago 44 — 114 Liberty St., Dept. NED, New York

▲ For more details circle NED-465 B1 on enclosed inquiry slip ▲

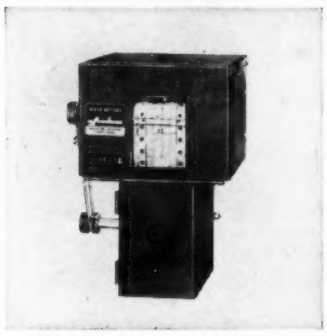
FRACTIONAL-HP MOTOR
for office machines and other uses



Constant torque and quietness are achieved in the Twenty-Six Frame series of fractional horsepower electric motors by giving them 24 slot stators instead of the conventional 16. The 3-in. diameter induction motors for office machines and similar uses incorporate a rolled steel interlocked motor frame with die cast end parts pressed into the frame. This assures accurate bearing alignment and uniform air gap between stator and rotor. Porous bronze and ball bearings are available. Motor has a ½-in. steel shaft, Mylar plastic insulation, cast aluminum rotor, and three types of mountings. Four-pole ratings are up to 1/20 hp; two-pole ratings, to 1/10 hp. Lengths vary from 3 11/16 to 5 7/16 in. • **Howard Industries, Inc.**, Dept. 31, 1760 State St., Racine, Wis.

▲ For more details circle NED-466 B1 on enclosed inquiry slip ▲

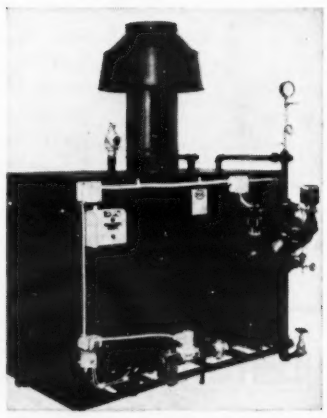
WELDING RECORDER
puts data on time-indexed tape



Job and production data are obtained directly from electric welding machines or devices by the Weld-Record. It provides automatic time study data on time-indexed tape. The chart feeds continuously while a ball point stylus draws graph lines showing all "on" and "off" time recorded. The operator can write reason for downtime directly on the tape at any point. Instrument is furnished with a time totalizer which accumulates the "on" readings and shows total productive time to the tenth of a minute. • **Weld-Record Corp.**, 2105 Dawson Rd., Albany, Ga.

▲ For more details circle NED-467 B1 on enclosed inquiry slip ▲

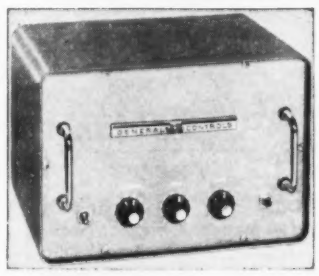
STEAM BOILER
7 to 25-hp sizes available



Efficient water tube design of this low cost, horizontal drum, steam boiler affords full steam pressure in 10 min. The long-life, easily cleaned unit can be used for many industrial and commercial operations. Offered with heavily insulated cabinet and automatic controls, packaged units are made in 7 to 25-hp sizes for gas, oil, or combination gas-oil firing. • **Sid E. Parker Boiler Mfg. Co.**, 2061 E. 37th St., Los Angeles 58, Calif.

▲ For more details circle NED-468 B1 on enclosed inquiry slip ▲

PREDETERMINING COUNTER
runs at 1000 counts per minute



Any quantity is quickly preset with dial indicator knobs on Model CE-901 predetermining counter. Unit is electrically actuated by impulses from a switch or relay and registers up to 1000 counts per minute. When preset quantity is reached, a built-in control relay automatically resets the unit to zero for repeat. The 4-amp, 115-v ac, single-pole double-throw relay initiates or controls carton changers and chute gates, or starts and stops machinery. Standard models with 2, 3, 4, and 5 digits have from 2-99 to 2-99,999 count ranges. • **General Controls Co.**, PIC Automation Controls Div., 8066 McCormick Blvd., Skokie, Ill.

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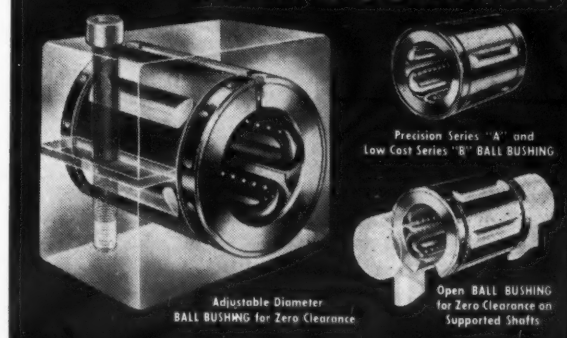
NOW! *Adjustable Diameter and Open*

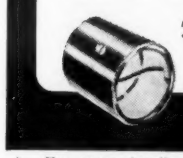
THOMSON BALL BUSHINGS



The BALL Bearing for *all* your **LINEAR MOTIONS**

LOW FRICTION • ZERO SHAKE OR PLAY
ELIMINATE BINDING AND CHATTER
SOLVE SLIDING LUBRICATION PROBLEMS
LONG LIFE • LASTING ALIGNMENT

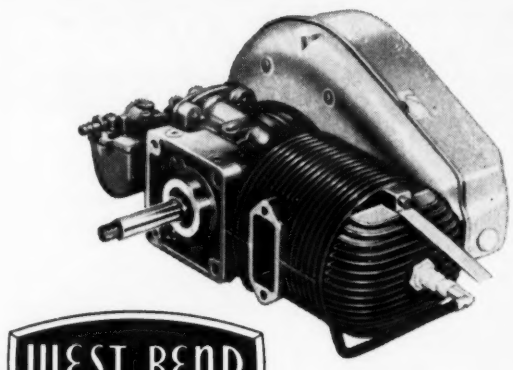
The various types cover a shaft diameter range of ⅛" to 4". Small sizes available in Stainless Steel. Write for literature and name of our representative in your city.



THOMSON INDUSTRIES, Inc.
Dept. C, MANHASSET, NEW YORK

Also manufacturers of NYLINED Bearings
. . . Sleeve Bearings of DuPont NYLON

▲ For more details circle NED-470 B1 on enclosed inquiry slip ▲



WEST BEND

Power Bee ENGINES for all powered equipment

SERIES 700
A 7.0 in. engine designed for continuous full throttle operation on saws, earth compactors or pumps. Rated 5 h.p.

SERIES 580
This 5.8 cu. in. model is an excellent replacement engine for chain saws, pumps and generators. Rated 4 h.p.

SERIES 390
West Bend's 3.9 cu. in., light duty power plant. Rated 1.6 h.p. at a governed 4,000 rpm.

You can count on West Bend engines for easy starting, full power and minimum "down time." Their dependability has been proven in thousands of hours of operation on karts, saws, earth compactors, pumps and generators. All models have good "lugging" ability. Write for literature and information on sample engine program.

WEST BEND ALUMINUM CO.
Dept. 1362, HARTFORD, WIS., BARRIE, ONT.

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new, revised slide chart

on Carpenter stainless steels

Features information NEVER AVAILABLE BEFORE in slide chart form

For the first time, with slide chart ease, convenience, and accuracy, you can put your finger quickly on a host of facts such as speeds and feeds for machining, drilling and threading stainless steels.

Second side is an up-to-date version of Carpenter's earlier issue Slide Chart. Contains all you need know to select the proper stainless for drawing, forging, heading, welding, roll forming, etc. Get your copy of this pocket-size reference today!

THE CARPENTER STEEL COMPANY
118 W. Bern St., Reading, Pa.

Please send me a copy of your new Carpenter Stainless Slide Chart. (Please print)

Company Name_____
Individual Name_____ Title_____
Address_____
City_____ Zone____ State____

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Whether you mark materials, parts, products or packages, there's a Markem machine ready to bring low cost, high production identification or decorative marking to your plant. From plastics to fabrics . . . transistors to camera parts . . . multi-color decorative marking to high production offset marking — there's a *Markem Method* to meet your marking needs. One source, with 47 years of experience in all industries, can supply the machines, type, inks, accessories and service you need. For complete information, write Markem Machine Company, Keene 3, New Hampshire.

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EVERYTHING INDUSTRY NEEDS . . . FOR PROFITABLE MARKING . . . SINCE 1911

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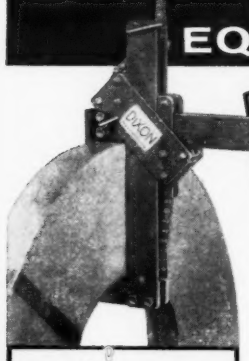
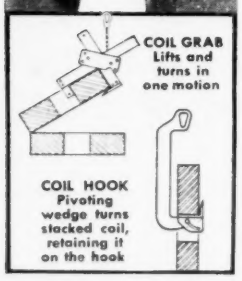
DIXON *Coil Handling* **EQUIPMENT**



LIFT, TURN AND LOAD COILS IN ONE EASY MOTION

DIXON GRABS have become the standard because of their secure grip and positive pickup features. All models available from stock. Capacity up to 2000 lbs. Here are a few of the important features:

1. One-man operation, pallet to stock reel.
2. Positive grip without damage to coils.
3. Clamp on all four sides of the coil.
4. Provide for rapid handling with safety.



DIXON HOOKS are especially popular for use where coils are stacked with separating spacers or where the overhead clearance is limited.

Write for our NEW 4-page Coil-Handling Bulletin, CH-B1.

DIXON **DIXON AUTOMATIC TOOL, Inc.**
2302 - 23rd AVENUE — ROCKFORD, ILLINOIS

ASSEMBLY EQUIPMENT • COIL GRABS AND HOOKS

▲ For more details circle **NED-474 B1** on enclosed inquiry slip ▲

AEROQUIP 1546

Aeroquip 1546 Multiple Wire Braid Hose and Reusable Fittings

Handles Phosphate-Ester Base Hydraulic Fluids at up to 4500 PSI

Aeroquip 1546 Multiple Wire Braid Hose handles phosphate-ester base hydraulic fluids up to 4500 psi. Synthetic rubber inner tube is supported by rugged multiple wire braid in alternate layers with cotton braid reinforcement. Outer cover is synthetic rubber. Aeroquip Multiple Wire Braid Hose and Reusable Fittings afford dependable long-life performance. When infrequent line replacement is required, bulk Aeroquip Hose and Reusable Fittings are all that is needed. Fittings can be used over and over again.

Your Aeroquip Distributor, a fluid line specialist, will discuss the hose and fittings best suited for your operations. He will give you Industrial Catalog No. 205. He is in the "Yellow Pages" under "Hose."

Aeroquip

AEROQUIP CORPORATION • JACKSON, MICHIGAN
Industrial Division, Van Wert, Ohio • Western Division, Burbank, California
Aeroquip (Canada) Ltd., Toronto 19, Ontario
Aeroquip products are fully protected by patents in U. S. A. and abroad

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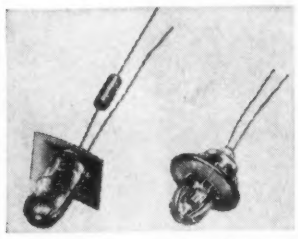
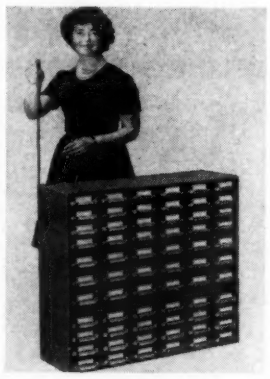
NEON GLOW UNITS
operate on line voltage



Supplied with either a Tinnerman nut or a snap-in plug, Econoglo neon glow indicator assemblies mount from the front of a panel. Both operate on standard line voltage, and are available with or without built-in current limiting resistors. Plain, fluted, and flat cap lenses are available in colorless, red, yellow, and white. The high brightness neon glow lamps burn out at the end of their useful life, rather than gradually dimming. They are usable on instruments, computers, portable appliances, communications equipment, and toys. • **Drake Mfg. Co.**, 4626 N. Olcott Ave., Chicago 31, Ill.

▲ For more details circle **NED-476 B1** on enclosed inquiry slip ▲

PARTS CABINETS
for stacking or side by side use



Each drawer of these modular parts cabinets may be subdivided into several compartments by cross dividers adjustable on 1-in. centers. Cabinets can be stacked as shown, or placed side by side. Stacked units are locked in place by a 1/4-in. steel rod at the rear corners. Drawer cabinets are 33 5/8 in. wide by 10 3/4 in. high, and are available either 11 1/4 or 17 1/4 in. deep with 18 or 24 drawers. Finish is gray baked enamel. • **Bay Products, Inc.**, 1801 W. Cambria St., Philadelphia 32, Pa.

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PLATFORM LADDER
3 to 10-ft sizes in aluminum

Cantilever type step designed into Series 1600 Craft-Master aluminum platform ladder provides a large, comfortable, and safe step tread. Suited for heavy industrial work, it is made in 3 to 10-ft sizes which can be handled by one man. Ladder has a large work platform, two side rails, and a horizontal top section serving as a guard and knee rail. Riveted, UL-labeled unit has ribbed rubber safety feet and diagonal bracing. • **R. D. Werner Co.**, Box 580, Greenville, Pa.

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FABCEL *Pads*
Patent Applied For

NEW REVOLUTIONARY DESIGN FOR LOW COST MACHINE MOUNTINGS

TO CONTROL VIBRATION
- ABSORB IMPACT
- REDUCE NOISE
- IMPROVE MACHINE PERFORMANCE

Scientifically Constructed Suction Cells Anchor Machine to Floor. No Bolts, Lag Screws or Cement Needed under Most Machinery.

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FABREEKA PRODUCTS CO., INC.
1190 Adams Street, Boston 24, Massachusetts
Representatives in principal cities
In Canada: International Equip. Co. Ltd., Royal Bank Bldg., Montreal
- made by the makers of Fabreeka -

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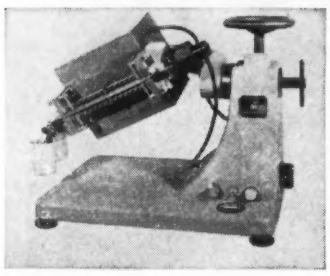
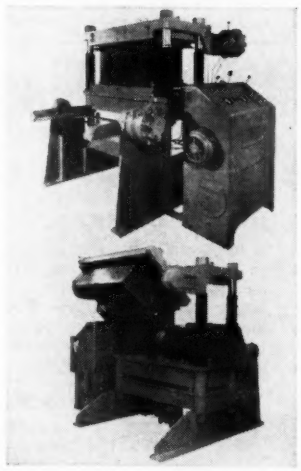
FERROMAGNETIC SEPARATOR
shakes nonmagnetic particles loose



Several times each second the alternating magnetic field of the Model E-1 Isodynamic Separator is switched off for a few cycles, allowing magnetized vertical agglomerates to collapse to release trapped nonmagnetic particles. Ferromagnetic mixtures are fed down a vibrating covered chute which is inclined sideways as well as forward. The two kinds of particles are constantly being shaken loose from each other and are conducted into separate receptacles by a divider in the lower end of the chute. Reproducible adjustments of forward and side slope are indicated on engraved scales. Magnet and vibrator intensities are knob-controlled. Cast iron base contains the power supply and controls. • **S. G. Frantz Co.**, 56 Kline Ave. at Brunswick Pike, Trenton 6, N. J.

▲ For more details circle **NED-480 B1** on enclosed inquiry slip ▲

DIE SPOTTING-IN PRESS
upper and lower platens swing out in 220-degree vertical arcs



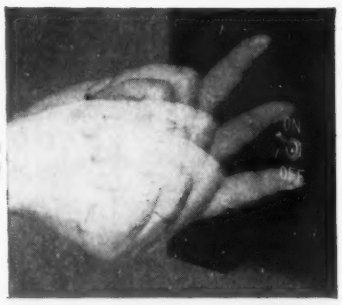
Spotting-in operations involving casting, trim, blanking, forming, drop forge, and glass and plastic dies and molds are speeded up as much as 70 per cent with the Tilt-A-Die press. Die halves secured to movable platens are rolled from the crown and bed to tilting position where they can be hydraulically rotated in 220-degree vertical arcs. Thus, either or both halves can be tilted to the most efficient working position.

After spotting-in, cycle is reversed and dies are returned to the interior for repeat bluing procedures. Up to 130-ton pressure can be applied, simulating near-operating pressures. Accurate location is assured by four tapered male registered points in the bed and crown. Opening and closing speed is variable from 0 to 110 ipm.

Machine is shown in spotting position (top) and with upper platen tilted to work position (bottom). It is also applicable as a heavy arbor press; a piercing, blanking, and forming press; production trim press; and as a tryout press for trim dies. • **Sanders Tool & Production Co.**, 4030 Fitch Rd., Toledo 13, Ohio.

▲ For more details circle **NED-481 B1** on enclosed inquiry slip ▲

300% FASTER ULTRASONIC CLEANING WITH SELF-TUNING*



Self-tuning Autosonic cleaners by Powertron clean faster, better and cheaper because they: Eliminate operator training and monitoring; Release labor for other work; Reduce rejects; Save on solvents.

HERE'S HOW IT'S DONE

The Autosonic is electronically self-tuned by its exclusive feedback transducer and requires no tuning knobs or meters. A simple switch is the only control.

Only Autosonic cleaners give you consistent peak performance cleaning regardless of load, solution level or temperature, contamination or operator inattention.

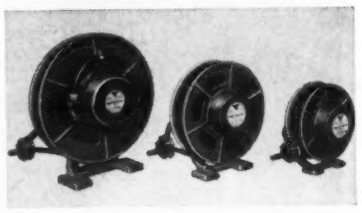
Powertron's complete line of Autosonic generators, tanks, cabinet models, degreasers and immersible transducers is immediately available from stock. Ask for free demonstration by Sales Engineer. *Case Histories on File.

Write for Data Sheets and free booklet: HOW TO CLEAN ULTRASONICALLY WITH SELF-TUNING.

POWERTRON ULTRASONICS CORP.
DEPT. NED-2 • PATTERSON PLACE, ROOSEVELT FIELD
GARDEN CITY, LONG ISLAND, NEW YORK • Pioneer 1-3220

▲ For more details circle **NED-482 B1** on enclosed inquiry slip ▲

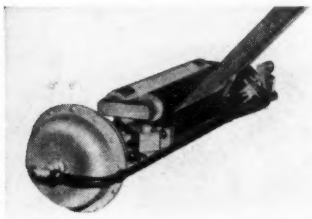
ELECTRIC CABLE REELS
hold from 15 ft to over 1 mile



Electrical cable with 1 to 90 conductors may be paid out and taken up by standard and modified cable reels. They hold from 15 ft to over 1 mile. Typical uses are on cranes, hoists, conveyors, floor maintenance machines, trucks, machine tools, and portable electric equipment. Retractable action of the lightweight, dust and moisture-tight units neatly stores the cable and protects it from abuse. Explosionproof types are also available. • **Aero-Motive Mfg. Co.,** 1801 Alcott St., Kalamazoo 24, Mich.

▲ For more details circle **NED-483 B1** on enclosed inquiry slip ▲

WEB GUIDE
for light gage materials



Side register on a 12-in. maximum width horizontal or vertical web is maintained within ±0.005-in. tolerance by the Model 111-V vacuum operated web guide. Designed for light gage, intermediate point use, it is suited for edge guiding immediately following an unwind operation, preceding any stationary processing, or at the rewind. A sensing head detects any deviation in web alignment, and a signalling mechanism causes the actuator to physically reposition the guide rolls. Guide is offered as a package unit for any web processing operation on new or existing equipment. • **Stanford Engineering Co.,** Salem, Ill.

▲ For more details circle **NED-484 B1** on enclosed inquiry slip ▲

AIR AFTERCOOLER
removes entrained moisture

Built for use with compressors delivering 50 to 120 cfm of free air, Model A4VC aftercooler removes suspended moisture from compressed air. It has a corrosion resistant copper coil through which the valve-regulated cooling water flows. Spaced baffle plates assure maximum contact of the air with the cool coil so that it is cooled below the dew point and moisture is extracted. Separated moisture is ejected automatically by a ball float trap. An automatic cooling water shut-off and a horizontal design for overhead lines are optional. • **Jas. A. Murphy & Co.,** 1421 E. High St., Hamilton, Ohio.

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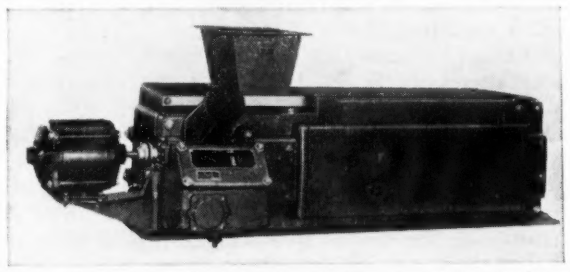
RADAR OVEN
heats products at high speeds

Curing, drying, heating, and similar operations on plastics, paints, varnishes, resins, films, and paper are carried out at exceptional speeds and with complete safety with this Ther-Monic Radar-Oven. This compact dielectric heating unit occupies only 25 x 25-in. floor space and operates on 4.4 kw, 220 v, 60-cycle ac. Output frequency is 2450 mc, and cooling water requirement is only ⅓ gpm. Mounted on casters, it can be rolled to job. Controls and instruments are conveniently located. Separately controlled microwave heating and resistance heating have individual timers. The cavity is large enough for most parts, or it can be arranged to surround a conveyor belt for production work. • **Induction Heating Corp.,** 181 Wythe Ave., Brooklyn 11, N. Y.

▲ For more details circle **NED-487 B1** on enclosed inquiry slip ▲

VOLUMETRIC FEEDER
measures all free-flowing solids over 3 to 3000-lb-per-minute range

Merchen volumetric feeder of the belt and feed gate design is available with 9 or 18-in. Buna-N feed belts and respective feeds of 0.1 to 600 and 0.6 to 3600 cfh.



Depending upon the density of the material fed, this is equivalent to 3 to 3000 lb per minute. Feeder measures all free-flowing powdered, granular, or lumpy solids by volume at a rate adjustable by dial setting over a 10:1 range. Accuracy is maintained within ±3 per cent over any 1-min period. Belt speeds are changed by a two-speed gear box to give a 100:1 range.

The 9-in. model also is offered with a variable speed drive which increases the range to 1000:1 when combined with the gear box. Feeder construction is aluminum, with a vertical gate of stainless steel. The feed section can also be stainless steel. Either size can be converted to a gravimetric feeder by adding weighing components. An optional switch stops the feeder or actuates an alarm when feed falls below a selected rate. • **Wallace & Tiernan Inc.,** 25 Main St., Belleville 9, N. J.

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ANY TYPE OR SIZE
USG® BRUSH FOR
FRACTIONAL HP OR
INDUSTRIAL MOTORS

Many successful applications have been made on all types and sizes of rotating electrical equipment with USG motor and generator brushes and contacts manufactured by The United States Graphite Company. USG brushes are available in OEM production quantities or for replacement purposes in the following grades: carbon, carbon-graphite, electro-graphitic, graphite and metal-graphite. Special grades can be developed to meet your specific needs.

Write today for Engineering Handbook B-56 and the Brush Grade Supplement.

THE UNITED STATES GRAPHITE COMPANY
DIVISION OF THE WICKES CORPORATION • SAGINAW 10, MICHIGAN
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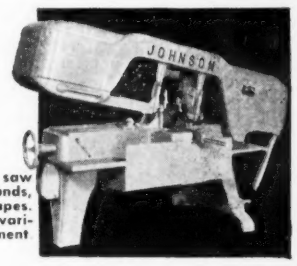
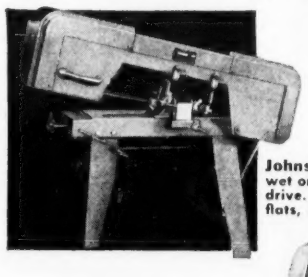
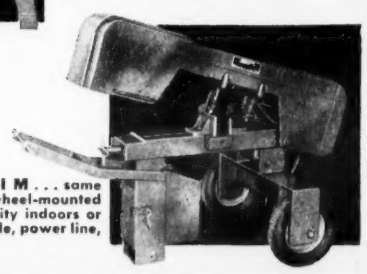


Johnson Model J . . . A big, rugged saw that cuts anything—anywhere! 10" rounds, 18" flats, heavy structurals and odd shapes. Available in wet or dry cutting models, variable speed drive and optional equipment



Johnson Model B . . . Also available in wet or dry cutting models, variable speed drive. Will easily handle 5" rounds, 10" flats, odd and irregular shapes.



Johnson "Mobile" Model M . . . same capacity as Model B, but wheel-mounted for fast, easy maneuverability indoors or out. Has self contained handle, power line, tool box for accessories.

MORE SAW
for
LESS MONEY

Only Johnson offers so much saw for so little money. Whether your requirements call for the tremendous performance of the big Model J, the amazing Model B, or the versatile "Mobile" Model M, there's a Johnson saw model, wet or dry, to match your metal cutting needs.

Remember...Johnson offers three husky, handsome models that'll do the job faster, better. They're beautifully engineered, semi-automatic, have centralized controls—plus many exclusive features that pay production dividends to *you!*

Priced right? Certainly! Compare them all before you buy and you'll agree, Johnson offers more saw for less money.

Write today . . . **Ask for illustrated literature, specifications and prices on the full line of Johnson saws. Ask the man who has one . . . You'll be glad you did!**

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Hale Bldg., 51 Main St.
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1605 Solano Avenue
Berkeley, Calif.

JOHNSON MANUFACTURING CORPORATION
Barnes & Taylor Sts., Albion, Michigan

Johnson
METAL CUTTING BAND SAWS

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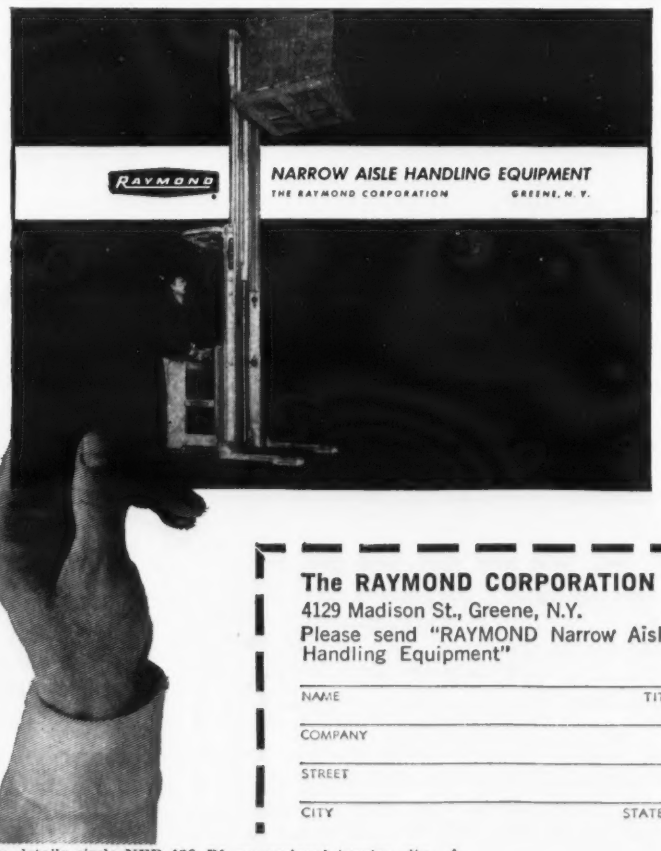
facts at your fingertips



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RAYMOND

Originator and world's largest builder of narrow aisle trucks

The RAYMOND CORPORATION
4129 Madison St., Greene, N.Y.
Please send "RAYMOND Narrow Aisle Handling Equipment"

NAME TITLE
COMPANY
STREET
CITY STATE

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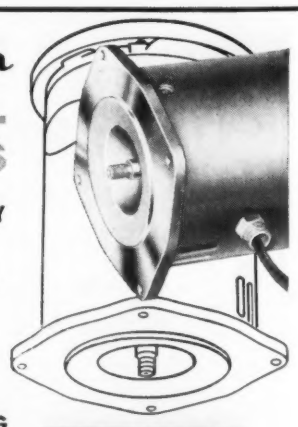
Franklin UNISEAL MOTORS

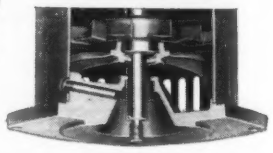


- CUT PARTS AND ASSEMBLY COST OF YOUR PRODUCT
- REDUCE PRODUCT WEIGHT

HORIZONTAL OR VERTICAL MOUNTING

QUIET, ISOLATED BEARING

UNISEAL design isolates the bearing from possible seal leakage. Seal installs in machined cavity separated from bearing by vented air space. Fan keeps dirt, moisture from bearing area.



Close-coupling of Franklin Motor to your product eliminates adapter casting, stub shaft, outboard bearing, coupling, etc. S/S motor shaft available to specifications.

⅓ through 5 h.p., 56-frame NEMA and special designs. With or less base. Horizontal or vertical operation.

FRANKLIN ELECTRIC

Franklin Electric Co., Inc.
BLUFFTON, INDIANA

For more details circle NED-491 B1 on enclosed inquiry slip

IN Synthe-Seal® BEARINGS

MARLIN-ROCKWELL MRC RELIABILITY COUNTS

BACKED BY 62 YEARS EXPERIENCE IN THE MANUFACTURE OF BALL BEARINGS

Send for FORM 1528 listing sizes

MRC BALL AND ROLLER bearings

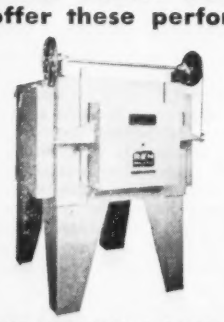
Marlin-Rockwell Corporation
Jamestown, N. Y.

For more details circle NED-492 B1 on enclosed inquiry slip

SOLVE HEAT-TREATMENT PROBLEMS

for Glass, Steel, Aluminum, Ceramics, Chemical Processing

ONLY TRENT BOX TYPE FURNACES offer these performance advantages:



- Controlled, Uniform Clean Heat to 2300°F.
- Operate from Standard Voltages
- Standard Switches and Controls
- Require No Transformers
- TRENT "Folded and Formed" Electric Heating Element

THE HEATING ELEMENT MAKES THE DIFFERENCE!

Surface of continuous "Folded and Formed" ribbon type element faces the work chamber—gives up to *4 times the radiating area* per given cross section of ordinary types! Let TRENT engineers study your needs to determine the efficient and economical solution to your heating problems.

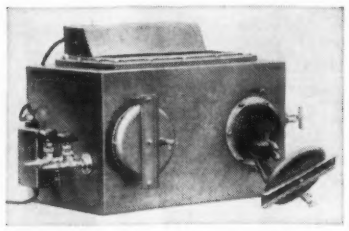
Write for Bulletin 75-TD

TRENT INC.
Electrically Heated Industrial Equipment

251 Leverington Ave., Philadelphia 27, Pa.
In Canada
Pioneer Electric Eastern Ltd., Toronto

For more details circle NED-493 B1 on enclosed inquiry slip

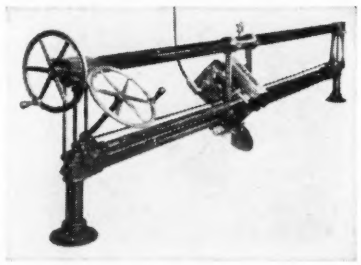
VACUUM DRY BOX
can be evacuated to 28 in. Hg



Working area of this 14-gage stainless steel, interior reinforced vacuum dry box can be evacuated to about 28 in. Hg vacuum with a standard lab-type vacuum pump. It is useful in preparing samples for spectrographic analysis or other samples which cannot tolerate oxygen contamination. Swinging door at right end provides entry and closes against a double contact neoprene gasket. It is sealed by six adjustable-tension quick-disconnect latches. Box is equipped with 10 x 14-in. clear Lucite top viewing panel, a 12-in. fluorescent light, two valve assemblies, one pair of neoprene gloves, two removable pressure ports, and one sealed twist-lock 110-v ac receptacle within the enclosure. It measures 24 x 14¼ x 14¼ in. • **Kewaunee Mfg. Co.**, Kewaunee Scientific Equipment Div., 4030 Logan St., Adrian, Mich.

For more details circle NED-494 B1 on enclosed inquiry slip

SHEET CUTTING SAW
for various materials up to 14 ft



Manual and automatic models, designated as TR-M and TR-A, are available in the Tri-Rail panel saw which rapidly and accurately cuts large sheets singly or in multiples. It will cut acrylic and phenolic plastic laminates, as well as large sheets of plywood, plastic, metals, veneers, paper, wallboard, and Transite. Up to 14-ft long cuts are made accurately, with a 3-in. steel tube third rail maintaining the necessary rigidity to assure close tolerances. Saw has a 5-hp motor. A handwheel at the operator position raises and lowers the saw which adjusts for bevel and straight line cutting. • **Hendrick Mfg. Corp.**, Marblehead, Mass.

For more details circle NED-495 B1 on enclosed inquiry slip

SONIC ENERGY CLEANERS
five sizes hold up to 10 gal

Gentle but thorough scouring action of ultra-high frequency sound waves is utilized by the Ultracleaner line of sonic energy cleaners for mass production cleaning or for single-operation soil removal. Five sizes with tank capacities up to 10 gal are used to clean electronic, mechanical, optical, and other types of parts, mechanisms, and assemblies. Complex parts with blind holes are efficiently cleaned. Various cleaning agents and immersion heaters are available for use in the equipment. • **Lawrence Mfg. Corp.**, 922 McCarter Highway, Newark 2, N. J.

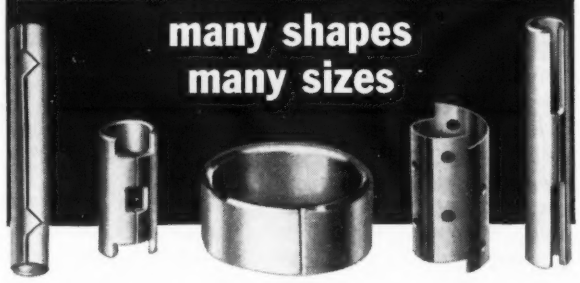
For more details circle NED-496 B1 on enclosed inquiry slip

CENTRIFUGAL FANS
volumes from 440 to 560,000 cfm

Air supply and exhaust in air conditioning, ventilating, industrial processing, and mechanical draft applications are uses for Design 10 Airfoil centrifugal fans. The slow speed units have static pressure ratings of ¼ to 30 in. with volumes ranging from 440 to 560,000 cfm, and operate under temperatures to 800° F. Hollow airfoil-shaped blades operate quietly. Sizes from 12¼ to 89 in. are made in five classes of construction. • **Chicago Blower Corp.**, 9867 Pacific Ave., Franklin Park, Ill.

For more details circle NED-497 B1 on enclosed inquiry slip

FORMED SPACER TUBES...
many shapes many sizes



. . . at a saving over pipe and tubing!

Made from any formable metal—mild steel, copper, brass, bronze, aluminum, stainless steel.

Plating or finishing of any standard type—copper, zinc, nickel, cadmium, Parkerizing, Dulite.

Available in special shapes, tapers, seams, locks, and with ball indents for oil pockets . . . can be supplied copper-brazed to other components, and with copper-brazed seams. For free catalog, write to Federal-Mogul Division, 11079 Shoemaker, Detroit 13, Mich.

FEDERAL Mogul

FEDERAL-MOGUL sleeve bearings bushings-spacers thrust washers DIVISION OF FEDERAL-MOGUL-BOWER BEARINGS, INC.

For more details circle NED-498 B1 on enclosed inquiry slip

EXTENSION-NOZZLE solves problem of coating internal surfaces

DeVilbiss extended-nozzle spray guns let you spray inside surfaces and inaccessible spots that *can't* be properly coated by any other method. There are standard models to enter openings from 3" in diameter down to ¼" in diameter, with extension lengths up to 6 ft., and a selection of spray-pattern shapes and directions of spray. All types of coating materials can be applied. The DeVilbiss Company, Toledo 1, Ohio. Branch offices in principal cities.

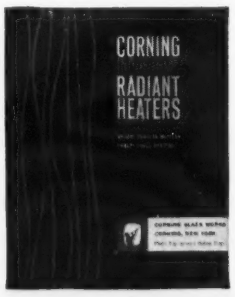
FOR TOTAL SERVICE, CALL DEVILBISS

For more details circle NED-499 B1 on enclosed inquiry slip

new booklet

SHOWS HOW TO SOLVE HEATING AND DRYING PROBLEMS

1. Details the theory and practice of heating and drying with radiant energy.
2. Shows how the use of glass as an energy source is up to 90% efficient for heating, drying, curing or baking.
3. Gives specifications on both VYCOR® Tubular Heaters and PYREX® Panel Heaters.



Booklet sent upon request from:
Industrial Components Sales Department
5602 Crystal Street, Corning, N. Y.

CORNING GLASS WORKS
CORNING MEANS RESEARCH IN GLASS

For more details circle NED-500 B1 on enclosed inquiry slip

one stands out!

AERO-SEAL JET®
WORM DRIVE HOSE CLAMP

Clamps may come in an assortment of shapes and mechanisms in an effort to duplicate some of the features of the AERO-SEAL JET, but one still stands out, and that is the AERO-SEAL JET itself.

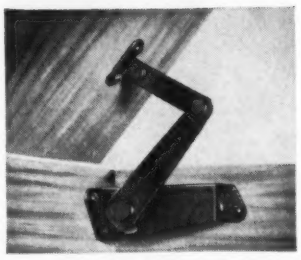
This is because it provides all of the advantages of precision worm drive, plus almost instantaneous installation or removal. Bands and housings are of 302-18-8 stainless steel. All stainless if desired. Regular AERO-SEAL design also available.

Be sure to get Genuine AERO-SEALS. Ask your supply house.

BREEZE CORPORATIONS, INC.
700 Liberty Ave., Union, N.J. • Cable Address: Breeze, Union, N.J.

For more details circle NED-501 B1 on enclosed inquiry slip

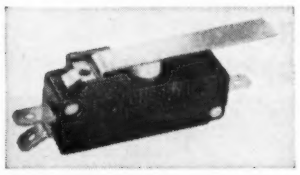
LID COUNTERBALANCE
is adjustable and easily attached



This counterbalancing lid support will allow a full 90-degree opening of the lid. A front-mounted tension simplifies adjustment. It is offered in right and left-hand models with any of three tension springs for various weight lids, and it mounts directly on surface without need for mortising. Lacquered brass and bronze finishes are standard. • **National Lock Co.**, 1902 Seventh St., Rockford, Ill.

For more details circle NED-504 B1 on enclosed inquiry slip

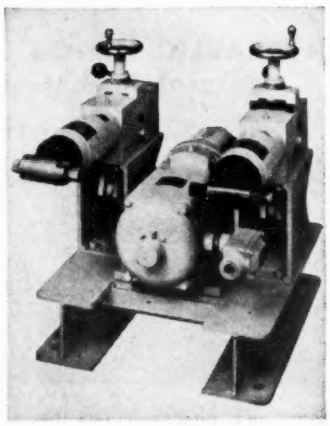
SNAP-ACTION SWITCH
has hinged lever actuator



Low operating force actuates the Series E13-OOH snap-action switch through its hinged lever actuator. The low cost basic switch has standard mounting holes and is suited for electronic devices, vending machines, and appliances. Its case-pivoted actuator arm is offered in roller and straight lever types, the latter with length and form variations for cam, roller, or straight line actuation. Terminals accept standard quick connect or solder wiring connections. Normally-open and normally-closed types are made in single-pole single-throw and single-pole double-throw models rated 15 amp, 125/250 v. Price is 32 cents in quantities of 10,000. • **Cherry Electrical Products Corp.**, W. Deerfield Road, Highland Park, Ill.

For more details circle NED-505 B1 on enclosed inquiry slip

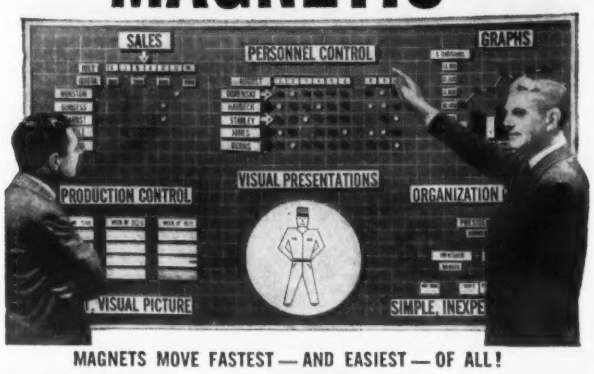
PROPORTIONING PUMPS
deliveries from 0.84 to 6.44 gph



Small volumes of fluids are delivered at pressures from 7500 to 30,000 psi in this series of chemical proportioning pumps, available in single and duplex models. They feature an adjustable stroke length and, regardless of the length of stroke, completely evacuate the cylinder, making possible efficient pumping of compressible liquids. Capacities range from 0.84 to 6.44 gph. • **American Instrument Co.**, 8030 Georgia Ave., Silver Springs, Md.

For more details circle NED-506 B1 on enclosed inquiry slip

VISUAL **MAGNETIC** CONTROL



MAGNETS MOVE FASTEST — AND EASIEST — OF ALL!

SIMPLEST VISUAL SYSTEM FOR
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COLORFUL MAGNETIC ELEMENTS
- show facts instantly
- organize for action
- eliminate mistakes
- get the job done

PRICED FROM $38 INCLUDING MAGNETIC ELEMENTS

PRICE LIST & BROCHURE NE2 FREE ON REQUEST

REPRESENTATION DESIRED IN SOME AREAS

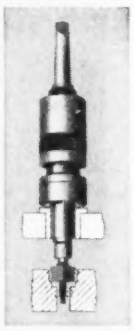
Methods Research Corp.
105A Willow Ave., Staten Island 5, New York

For more details circle NED-508 B1 on enclosed inquiry slip

QUICK-CHANGE FEATURE ENABLES BOKUMATIC RECESS TOOL HOLDERS TO WORK OFF FIXTURE... OFF PART

- Only recess tool holder available with quick-change adapter.
- Holder convertible to off-center style for deeper recessing by changing to off-center type adapters.
- Holder uses straight shank cutting tools, reducing cost of perishable tools.
- Holder can be used either vertically or horizontally.
- Holder convertible from jig fixture piloting to work piece piloting.
- Holder actuated by two cam pins 180° apart for smooth chatter-free recessing.
- Cam pins accessible for easy replacement.
- Replaceable tool holder shanks are located by two pilots for positive concentricity.
- Bokum standard recessing cutters with radial relief can be used.
- Cutting tool can be preset in quick-change adapter as to depth into part before tool holder is assembled.

Write today for catalog BO-1-60



Standard Model B holder with quick change adapter and pilot to fit in bushing plate assembly.

Standard Model B-1 holder and quick change adapter and pilot to work off part.

BOKUM TOOL COMPANY, INC.
14775 WILDEMERE AVENUE
DETROIT 38, MICHIGAN

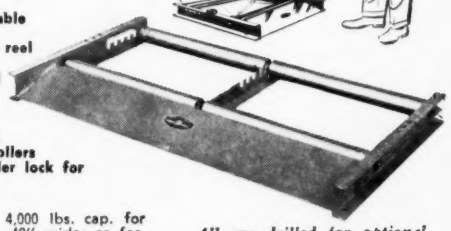
For more details circle NED-502 B1 on enclosed inquiry slip

REELS roll SMOOTHLY on ROLL-A-REEL

for pay-out or take-up of anything on reels

No pulling heavy reels . . . no pushing . . . JUST LOAD and away you go!

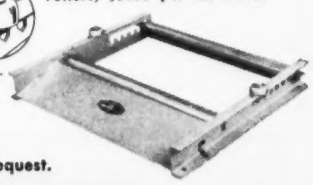
- Easily portable
- No jacks
- Handle any reel diameter
- Heavy steel frame
- Slanted front
- Ball-bearing adjustable rollers
- Positive roller lock for unloading



STYLE B — 4,000 lbs. cap. for 1 reel up to 48" wide; or for 2 reels up to 24" wide each. Weight 110#. PRICE $84.50 f.o.b. Cincinnati

All are drilled for optional auxiliary ball-bearing side rollers, $5.00 per set extra.

STYLE A — 2,000 lbs. cap. for reels up to 28" wide. Weight 60#. PRICE $46.50 f.o.b. Cincinnati



• Special sizes on request.

ROLL-A-REEL 4626 Reading Road Cincinnati 29, Ohio

For more details circle NED-509 B1 on enclosed inquiry slip

For more details circle NED-503 B1 on enclosed inquiry slip

MANHEIM VARIABLE SPEED BELT

Specify MVS—the vari-speed belt that gives you complete design flexibility and maximum operating efficiency

- *Completely adjustable* to any length for full freedom in equipment designs for V-to-V drives.
- *Vibration-free power delivery.* Links, studs, cup-washers and T-screws are absolutely uniform for perfectly balanced drives.
- *Exact speed control*—uniform thickness and width guarantee constant power delivery at all speeds.
- *Patented design* assures no cross-sectional distortion—provides maximum lateral stiffness.
- *Easier to install* without disassembly of unit.
- *Minimum inventory*—as many as 72 stock sizes of variable speed belts can be made up from one standard package of a given top width.

Send for free MVS catalog.

MANHEIM MANUFACTURING & BELTING CO., MANHEIM 4, PA.

For more details circle NED-507 B1 on enclosed inquiry slip

Specify Veelos—the only v-belt that gives you complete design flexibility and maximum operating efficiency

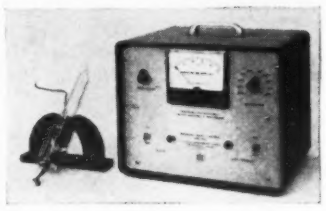
- *Simplification of drive layout*—no limitations imposed by belt length and sheave position.
- *Balanced construction*—maintains the right tension to assure full power delivery for faster, cleaner work.
- *Saves machine bearings* and shafts by cutting machine vibration up to 90%.
- *Cool running* for long belt life. No internal heat build-up.
- *Easiest installation*—no resetting, tilting or moving of motor.
- *Always ready*—minimum inventory for maximum plant coverage. Four reels of O, A, B, and C provide up to 316 sizes.
- *New Veelos Tool*—the fastest, easiest way to uncouple link v-belt. Ask your Veelos distributor.

Send for free Veelos data book.

MANHEIM MANUFACTURING & BELTING CO., MANHEIM 4, PA.

For more details circle NED-510 B1 on enclosed inquiry slip

NEWS from the NRC Vacuum MICRONICLE*



REDHEAD MAGNETRON GAUGE READS VACUUM TO BELOW 10^{-13} mm Hg

Direct measurement of pressure from 10^{-4} to less than 10^{-13} mm Hg is easy with the new Model 552 Redhead Magnetron Ultra-High Vacuum Gauge and Model 752 UHV Gauge Control.

Cold cathode operation keeps the Model 552 elements from vaporizing and eliminates the need for outgassing circuit. Self-regulated emission simplifies operation and maintains high signal to background ratio on all ranges. High sensitivity of 4.5 amp/mm Hg (air) permits use of standard electrometer amplifier. Response is virtually linear and almost instantaneous.

Partially transistorized Model 752 has only four operating controls: two switches, range selector, and zero set. Connections are provided for 0-10 mv recorder. Short time constant permits observation of pressure fluctuations. Gauge, magnet, and control now in stock at $195, $50, and $850.

*Send for FREE periodical containing details on above plus other news about high vacuum.

NEO-16

NRC EQUIPMENT CORPORATION

A Subsidiary of National Research Corporation

Dept. 29B, 160 Charlemont Street, Newton 61, Mass.

▲ For more details circle **NED-511 B1** on enclosed inquiry slip ▲

YOUR GOOD PRODUCT DESERVES TO BE SHIPPED with THE PROPER MARK

MARKING RULE 6 says: freight must be stenciled or otherwise durably and plainly marked.

DURABLY means in a durable manner; lasting in spite of hard wear or frequent use. (You get durability with D-B ROL-IT-ON stencil inks.)

PLAINLY means easy to read. The marking should be as large as possible. (There is a D-B stencil machine in a letter size to meet your every marking need.)

FOR FURTHER INFORMATION WRITE . . .

DIAGRAPH-BRADLEY INDUSTRIES Inc.
P. O. BOX 269 HERRIN, ILLINOIS
DISTRIBUTORS IN ALL PRINCIPAL CITIES

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INSTANT KEYWAYS

for a penny apiece

With Minute Man Keyway Broach Kits you can cut keyways in one minute for as little as one cent. For keyways from 1/16" to 1" in any bore from 1/4" to 3".

Save Time with Standard Stock SQUARE BROACHES

1/8" to 3/4" holes

SEND FOR CATALOG AND PRICE LIST

The duMont Corp., Greenfield, Mass.

MAIL FREE BROACH CATALOG AND PRICE LIST D describing Square Broaches, Hexagon Broaches, Production Type Keyway Broaches and Keyway Broach Kits to

Name.....

Company.....

Address.....

duMont

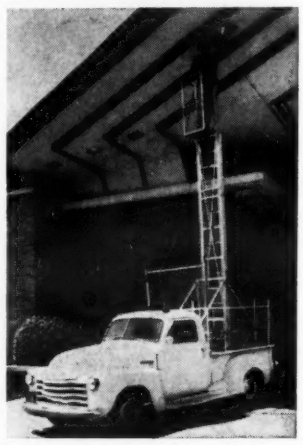
▲ For more details circle **NED-513 B1** on enclosed inquiry slip ▲

DUAL ACTION SANDER has redesigned 5-in. pad

Redesigned 5-in. pad on the Dual Action portable sander is particularly suited for heavy work in paint shops. Because attaching screw does not go through the pad, operator sands with the full area of the abrasive disc. He can negotiate contours and sand up to right angles. Action of sander causes abrasive grains to travel a non-repeating path, minimizing heat generation. Pads with abrasives from coarse to No. 320 grit can be used. • **National-Detroit, Inc.**, 2810 Auburn St., Rockford, Ill.

▲ For more details circle **NED-514 B1** on enclosed inquiry slip ▲

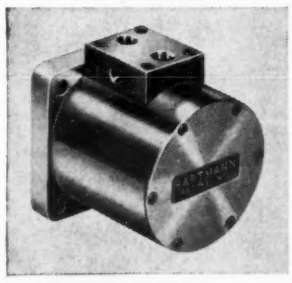
MAINTENANCE PLATFORM adapts to bed of pick-up truck



Weighing only 200 lb, the Tallescope aluminum telescoping maintenance platform extends instantly for reaching work as high as 32 ft. It is readily adapted to the bed of any pick-up or other truck, and folds down for transportation with the work platform over the truck cab. Although designed for exterior and accessible interior work on the truck, the platform unit can be quickly removed for use inside buildings. • **Up-Right Scaffolds**, 1013 Pardee St., Berkeley, Calif.

▲ For more details circle **NED-515 B1** on enclosed inquiry slip ▲

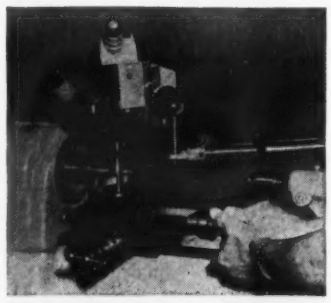
HYDRAULIC MOTOR accurately controlled at all speeds



Self-contained and easy to install, the Rol-Vane hydraulic motor provides practically 100 per cent torque at stall, and is pulseless and noiseless in operation, even at very low speeds. The constant displacement type motor for precision machine tools and equipment can be connected directly to the load and, with the addition of a servo valve, it may be used as a servo motor in speed control applications. It can be connected to machine tool lead screws without intermediate gear reduction. Three standard sizes have displacements from 2.2 to 7.6 cu in. per revolution, torques from 35 to 121 lb-in. per 100 psi, and outputs from 15 to 41.5 hp. Maximum speed is 1500 rpm and pressure is 2000 psi. Motors have diameters from 5 1/8 to 7 1/8 in. and are available for standard flange mounting, coupled use, and with double shaft extension. • **Hartmann Mfg. Co.**, 1637 Goold St., Racine, Wis.

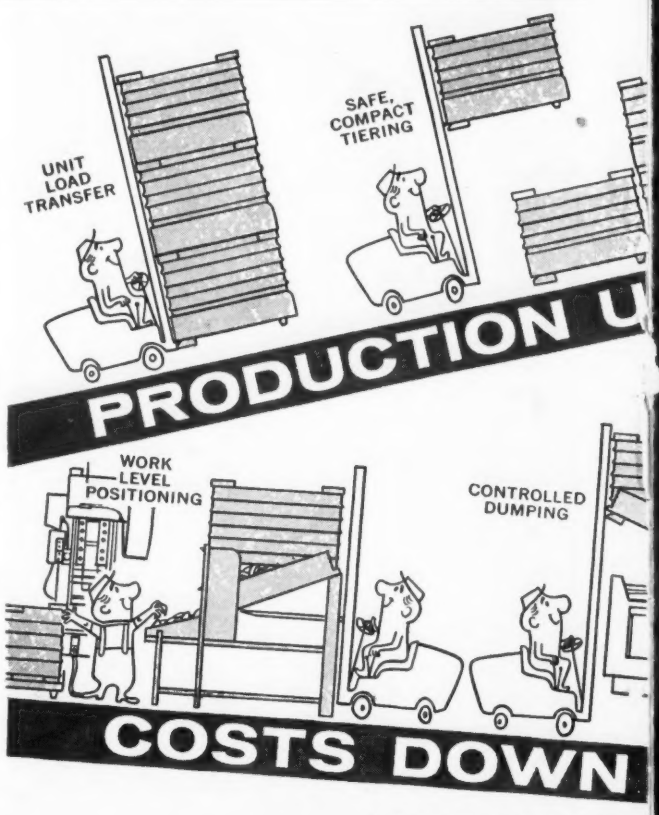
▲ For more details circle **NED-516 B1** on enclosed inquiry slip ▲

UTILITY MICROSCOPE inspects small parts, critical work



Low power magnification, erect image, wide field of view, and a fixed long working distance of 4 in. adapt this Utility Microscope for inspection or measurement of small parts or critical work. It attaches to almost any machine, bench, jig, or fixture for observing gross surface characteristics, blow holes, cracks, and flaws. One of two available models provides 20X magnification; the other, three selective magnifications of 10X, 20X, and 40X. • **American Optical Co.**, Instrument Div., Sugar & Eggert Roads, Buffalo 15, N. Y.

▲ For more details circle **NED-517 B1** on enclosed inquiry slip ▲



▲ For more details circle **NED-51**

FOR VOLTAGES OF 600 OR LESS

There's a *Safe and Dependa*
BUSS Fuse or FUSETRON F
to fit the needs of every use

1 Buss LOW-PEAK fuses. 200,000 amp. interrupting capacity . . . great current limitation . . . plus long-time-lag. **Bulletin LPCS.**

2 FUSETRON dual-element fuses. All purpose protective device for circuit, motor or equipment protection. **Bulletin FIS.**

3 Buss Hi-Cap fuses. For loads above 600 and up to 6,000 amps. 200,000 amp. interrupting capacity, plus current limitation. **Bulletin HCS.**

4 Buss LIMITRON fuses. High interrupting capacity fuses with exceptional current limitation. **Bulletin HLS.**

5 Buss Super-Lag Re est cost protection where are expected.

6 Buss One-Time fuse tection for heating or l faults do not exceed 10,

7 Buss Clear Window body, safety design guar

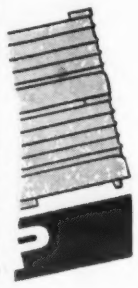
8 FUSETRON dual-el Safely stop needless blow against short-circuits and

▲ For more details circle **NED-51**

The Authorized SKF

Spherical, Cylindrical, Ball, and Timken *Tapered Roller Be*

▲ For more details circle **NED-52**

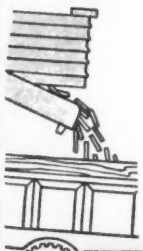


with Versatile

WORK-O-MATIC* HANDLING SYSTEM

Work-O-Matic Drop-Bottom Boxes increase efficiency and solve many troublesome handling problems. The Union Metal Manufacturing Co., Canton 5, Ohio.

*Registered Trade Mark



UNION METAL
Material Handling Equipment

3 B1 on enclosed inquiry slip ▲

newable fuses. Low-periodic short-circuits **Bulletin RCS.**

s. Low cost, safe pro-ghting circuits where 00 amps. **Bulletin NCS.**

Plug fuses. One piece ntee protection. **Bulletin WUS.**

ement Plug fuses. s. Give full protection overloads. **Bulletin TCS.**

9 Buss FUSTAT fuses. Fusetron fuses with type "S" base resist overfuseing or tampering. **Bulletin SCPS.**

FUSTATS for motor protection. **Bulletin SMPS.**

10 BUSS and FUSETRON Small Dimension fuses and fuseholders. For the protection of all types of electric and electronic devices. **Bulletin SFB.**

Get the Facts, Write...

Bussmann Mfg. Division, McGraw-Edison Co. University at Jefferson, St. Louis 7, Mo.

B1 on enclosed inquiry slip ▲

Distributor always comes up with the right bearing

—because he stocks SKF bearings, the most complete line of types and sizes available today. 5919

EVERY TYPE—EVERY USE

SKF®

SKF INDUSTRIES, INC., PHILADELPHIA 32, PA.

*REG. U. S. PAT. OFF.

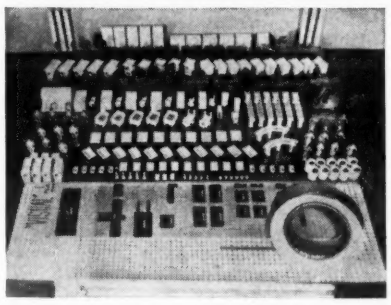
B1 on enclosed inquiry slip ▲

HOLE BORING SET
for installing ½ to 3-in. tubing

Thirty-five tools and accessories comprise this Master boring set for installing standard size copper tubing in sizes from ½ to 3 in. Housed in convenient steel carrying case, kit includes a Grips-Rite angle head, Handy Angle Supreme reciprocating saw with blades, and seven Planetor bits. The attachments fit standard portable electric and pneumatic tools. Prices range from $68.95 to $129.95. • **Price & Rutzebeck**, Box 30, Hayward, Calif.

▲ For more details circle **NED-521 B1** on enclosed inquiry slip ▲

MACHINE TOOL MODEL KIT
contains 187 ¼-in. scale models



Layout efficiency of an entire plant or department can be studied with the aid of this Three-dimensional machine tool planning kit. The kit contains 187 visual ¼-in. scale models, a planning board, columns, tape, Repro Templates of all equipment, and a grid sheet matte. Models include various machine tools, desks, cabinets, shelving, workbenches, shop trucks, conveyors, male and female operators, toilet equipment, and office machines. Kit sells for $98.75. • **Visual Plant Layouts Inc.**, 11 Pennsylvania Ave., Oakmont, Pa.

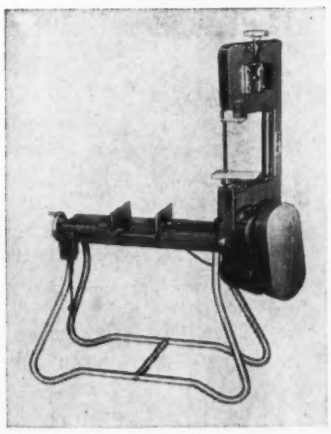
▲ For more details circle **NED-522 B1** on enclosed inquiry slip ▲

TREATED CORRUGATED PACKAGING
holds oiled parts without staining

Oil-soaked parts or materials can be packaged in corrugated containers made with a kraft paper facing treated with 3M Brand paper chemical FC-805. Chemical acts as a barrier to oil and grease preventing "wicking" through the facings of the container. Damage to adjacent containers and materials is thus prevented during shipment. Treatment has no effect upon appearance and printability of corrugated board, nor on methods used to process it. Picture shows difference between treated and untreated containers which were both filled with oily sweeping compound. Treated box at left was unstained after a month. • **Stone Container Corp.**, 4200 W. 42nd Place, Chicago 32, Ill.

▲ For more details circle **NED-523 B1** on enclosed inquiry slip ▲

CONVERTIBLE BAND SAW
for upright or horizontal use



Shown here in the upright position, Model 300 convertible band saw tilts 90 degrees to horizontal position for cut-off work. In raised position it can be used for cutting angles, slots, notches, and bevels. It will cut up to 3½ x 6-in. rectangular stock or 3½-in. diameter pipe or rounds. Blade speeds of 54, 100, and 190 fpm are available through a V-belt drive from the ¼-hp 115-v motor. A positive screw-action vise holds stock in horizontal use, and a gravity feed and switch shuts off machine when cut is finished. • **Wells Mfg. Corp.**, 1313 Harding St., Three Rivers, Mich.

▲ For more details circle **NED-524 B1** on enclosed inquiry slip ▲

Weld 50% faster than ordinary methods . . .

- Eliminate costly cleanup after welding
- Eliminate electrode changing and stub end loss
- Welds light gauge metal with small diameter wire
- Welds wide joint gaps approximately twice the base metal thickness
- Produce smooth, clean, uniform welds
- Uses inexpensive shielding gases
- Easy to use by inexperienced as well as experienced weldors
- Easy handling lightweight waterless gun

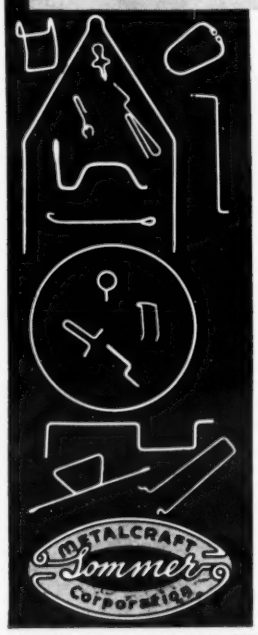
HOBART WELDERS · ELECTRODES

. . . for more complete information write for bulletin DM-159

HOBART BROTHERS CO., Box ND-21, Troy, Ohio

▲ For more details circle **NED-525 B1** on enclosed inquiry slip ▲

WIRE PARTS and PRODUCTS
Fast . . . Accurate . . . Low Cost



The forms shown here are only a few we make. They indicate our broad experience with different shapes, materials, finishes, welds.

Automatic wire-forming machines produce precision work on a volume basis at competitive prices, and speed up deliveries.

Finishes include baked enamel, cadmium, brite zinc, brite nickel, nickel chrome and mill finishes —in both barrel and fully automatic equipment.

Inquiries are invited and will be answered promptly. Send sample, blueprint or drawing. We will submit recommendations and quotations without delay.

SOMMER
METALCRAFT CORPORATION
200 POSTON DRIVE
CRAWFORDSVILLE, INDIANA

▲ For more details circle **NED-526 B1** on enclosed inquiry slip ▲

STOP

PORTABLE! MIDWEIGHT! QUALITY ENGINEERED!

Exclusive 3-way, pivotal-rigid combination handle. Either-hand, momentary safety switch.
13" KL-13
$169.50
for areas up to 5,000 sq. ft.

Generals ARE FEATURE-FILLED

GO

MAIL COUPON FOR COMPLETE DETAILS

PUT $100 BACK IN YOUR POCKET!

WHY SPEND $300 FOR A LARGE FLOOR MACHINE? THE NEW

General

15" KL-15 at $199.50

DOES THE WORK PERFECTLY

for areas up to 7,500 sq. ft.

***General* FLOORCRAFT, INC.**
3630 Rombouts Ave., Bronx 66, N. Y. Est. 1930
• All Sizes For All Types of Floors—Made By Floor Specialists
• World's Most Complete Line of Floor Maintenance Machines & Vacuums

NE-3
☐ Have Distributor call on us.
☐ Send complete information, literature and prices.
☐ Floor Machine ☐ Vacuum
Company ____
Street ____
City ____ State ____
My Name ____ Title ____

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NEW "CLOSE CLUSTER" DIE PROCESS CUTS BRAZING PREFORM WASTE, SAVES YOU MONEY!

Scrap means waste. And that adds to the cost of your silver brazing preforms. Precision dies arranged in a "close cluster" make maximum use of every inch of silver brazing or precious metal strip. This cuts waste, saves you money. Developed originally by Alloys Unlimited for the semiconductor industry, this new technique of "close cluster" stamping makes other methods old fashioned. Start saving . . . Send us your specifications, then compare our bids with your present costs. No obligation, of course.

Alloys Unlimited, Inc., 21-01 43rd Ave., Long Island City 1, N. Y.

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MOVE CARTONS, BOXES, BALES or BAGS FAST, EASILY AT LOW COST!

WITH THE AMAZING

Ve-Be-Veyor

- LIGHT WEIGHT—EASY TO MOVE
- UP TO 30% INCLINE
- HIGH POWER
- PLUGS IN ANY 110-120 OUTLET
- FULL 12" RUFF-TOP BELT

ONLY $461.00 for 12 foot model shown. 16 foot and 20 foot models plus extra accessories are available.
Prices F.O.B. Morton Grove plus state taxes.

★ SEND FOR FREE BULLETIN

Get all the dope on this high speed, versatile, little "powerhouse" conveyor. Does 1001 jobs in plants of all kinds. ASK FOR YOUR LITERATURE TODAY.

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CONVEYOR SYSTEMS, INC.
A-B FARQUHAR DIVISION
6451 W. Main Street • Morton Grove, Ill.
Phone Chicago—JU 8-0200

See your CSI-Farquhar Dealer or Write Direct!

The complete line of custom and pre-engineered conveyor systems

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Now- ONE AMMETER for both AC and DC

TONG TEST is the only ammeter of its type that measures both alternating and direct current. Get instant readings, without shutting down equipment, by merely snapping tongs around electrical conductor. Interchangeable ranges up to 1000 amperes, impossible to read wrong scale. Eight types of TONG TEST available for conductors up to 3⅞" diameter or bus bars up to 4½" x ½".

AC-DC VOLTMETER

Reads up to 600 volts, AC or DC. Convenient, accurate, compact. Model UV-1 $25.00 complete with voltage leads.

Write for Catalog ND-400

COLUMBIA ELECTRIC MFG. CO.
4525 Hamilton Ave.
CLEVELAND 14, OHIO

▲ For more details circle NED-530 B1 on enclosed inquiry slip ▲

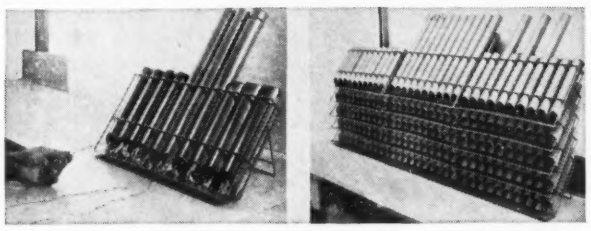
CONNECTOR PROTECTORS
keep out moisture and dust

Miniature rectangular electronic connectors are protected during manufacture, shipment, and storage and while in service by a line of close fitting plastic protectors. The rectangular vinyl caps keep out moisture, dust, and contamination, and afford protection against physical damage. The high dielectric strength of vinyl insulates against shorting out or electrical shock. They are bright yellow to conform to military specifications. Twelve sizes fit specifications for MIL-C-8384 rectangular connectors. All are quickly and easily removed by hand. • **S. S. White Dental Mfg. Co.**, Industrial Div., 10 E. 40th St., New York 16, N. Y.

▲ For more details circle NED-531 B1 on enclosed inquiry slip ▲

WIRE DISPENSER
speeds harness and panel wiring

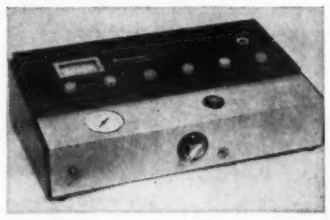
Wiring time for harnesses, control panels, and electronic assemblies is minimized through use of this wire dispenser. It stores all needed wires in an optimum



position for the operators and permits one-at-a-time withdrawal. Unit consists of ten high impact plastic tubes held in a rack (shown at left). Wires of any desired length are clipped in the tube. Racks of tubes may be mounted in multiples (as shown at right) with the dispenser ends always clear. They can be used on any bench, mounted on easel stands, or hung where desired. • **Products for Industry, Inc.**, 1704 Summer St., Stamford, Conn.

▲ For more details circle NED-532 B1 on enclosed inquiry slip ▲

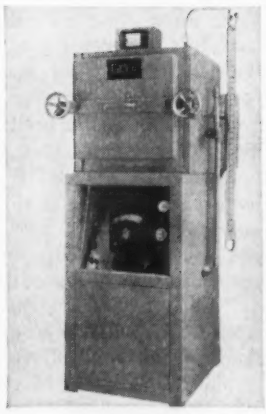
GAS CHROMATOGRAPH
samples both liquids and gases



Sensitive, rapid responding Model GC-2A gas chromatograph employs the thermal conductivity filament type detection system, and is suited for trace analysis, even with very small samples. Detector has a Dimbat-Porter-Stross sensitivity of 10,000 to 12,000 under favorable conditions, or 5000 at a noise level of less than 0.02 mv under normal conditions. Suited for both liquid and gas analysis, the instrument can be equipped with small diameter columns for rapid analyses, with larger columns for trace analyses, and with preparative columns for preparative gas chromatography. • **Beckman Instruments, Inc.**, Scientific & Process Instruments Div., 2500 Fullerton Rd., Fullerton, Calif.

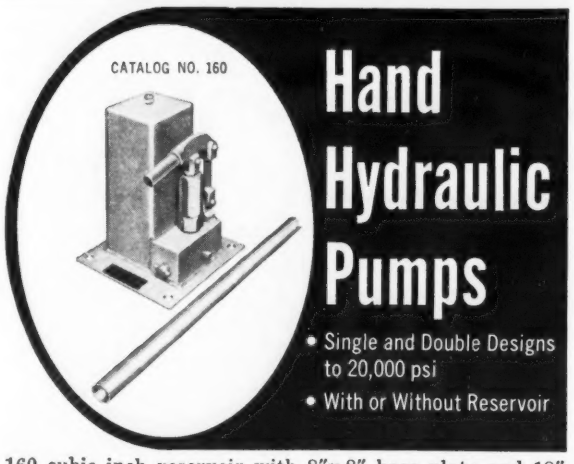
▲ For more details circle NED-533 B1 on enclosed inquiry slip ▲

HIGH VACUUM OVENS
for research and production



Complete bake-out type Models HVO and VVO high vacuum ovens for research and production are accurately controlled to 500° F by an indicating thermostat. Oven, pumping equipment, and vacuum gages are all enclosed in the console cabinet. Two optional pumping systems provide for operation to 10 microns, or 10^{-5} mm of mercury. A backfill gage and valve are included for inert bases. Three oven sizes offered are either front or pit loaded. • **Gruenberg Electric Co.**, 9 Commercial Ave., Garden City, N. Y.

▲ For more details circle NED-534 B1 on enclosed inquiry slip ▲



Hand Hydraulic Pumps

- Single and Double Designs to 20,000 psi
- With or Without Reservoir

160 cubic inch reservoir with 8"x 8" base plate and 18" long handle.

Available with optional size pistons ⅜", ½", ¾", 1" and 1½".

We specialize in the manufacture of hand pump units which operate in temperatures from −65° F. to +160° F. and with any capacity reservoirs required. Pumps can be furnished on special order with custom seals to handle various aircraft types of fuels such as Pydraul, Skydrol, Oronite, etc.

The single pump with ½", ¾", 1" or 1½" piston is now available in stainless steel.

for additional information write:

WILLIAM S. PINE
hydraulic hand pumps for 1001 uses
1635 East 22nd St., Los Angeles 11, Calif.

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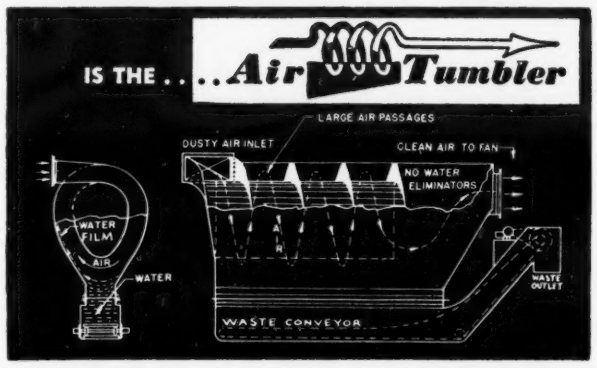
The MASTER of DUST in INDUSTRY

IS THE . . . . Air Tumbler



The Wet Collector that becomes Standard Equipment wherever tried because it does a better job at less cost.

More than one million CFM in ONE plant

Write for Bulletin No. 601. Address:

DUST SUPPRESSION & ENGINEERING CO.
P. O. BOX 67 • LAKE ORION, MICHIGAN

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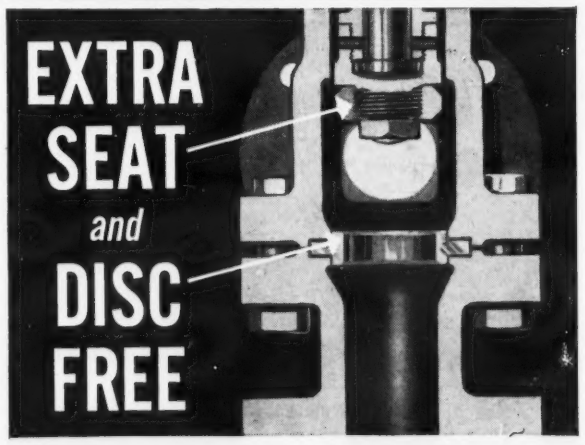
EXTRA SEAT and DISC FREE



in every Homestead® Boiler Blow-Off Valve! Simply reverse ground-and-mated Monel seat and disc and you have a valve as good as new. These Hovalco Angle Valves, built to outlast your boiler, resist corrosion and erosion. They throttle, control rate of blow-off, give long service. Easy inspection, quick repair. Used in tandem with any of three types of Homestead Quarter-Turn Plug Valves, Hovalco Angle Valves meet all requirements of State and Province Boiler Laws and A. S. M. E. Code. Write for catalog.

hv HOMESTEAD VALVE MANUFACTURING COMPANY
"Serving Since 1892"
P. O. Box 84, Coraopolis, Pa.

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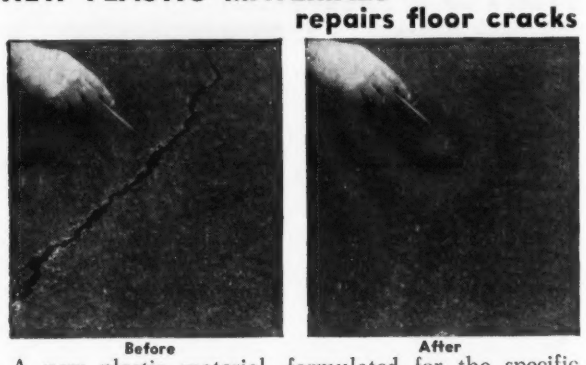
NEW PLASTIC MATERIALS
repairs floor cracks



A new plastic material, formulated for the specific purpose of repairing floor cracks and preventing surface deterioration, is announced by The Monroe Company, Inc., Cleveland. Known as "Jiffy Floor", it is a fine granular, ready-to-use plastic product that can be applied without interfering with production or traffic. It readily fills hairline cracks, shallow holes, spalled floors or expansion joints. Immediately after application, it will withstand heaviest loads.

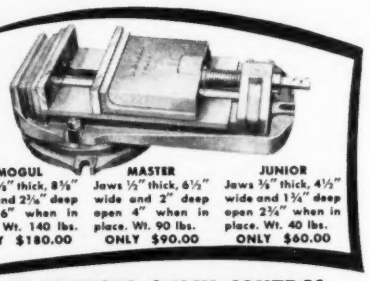
Jiffy Floor contains no asphalt, cement, sand or gravel. It will not crack, crumble or curl . . . is not affected by temperature changes . . . can be applied indoors or out.

Jiffy Floor is waterproof, dustless, skid-proof and noiseless. Available in 5-10-30 and 55-gallon drums, ready for easy use. For further information, write **The Monroe Company, Inc.,** 10702 Quebec Avenue, Cleveland 6, Ohio. *Advt.*

▲ For more details circle **NED-538 B1** on enclosed inquiry slip ▲

LW MILLING MACHINE DRILL PRESS-SHAPER VISES

• Super-Strong • Flange Construction • All surfaces ground for extreme accuracy • Full length bearing on ground bar and machine ways • Steel jaws • Work holding surfaces are always at true right angles, or parallel to the table • Large Acme steel screw with replaceable bronze nut.



MOGUL — Jaws ½" thick, 8⅜" wide and 2¾" deep open 6" when in place. Wt. 140 lbs. ONLY $180.00

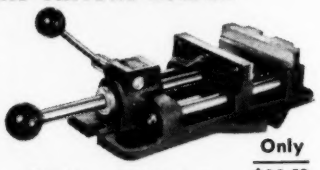
MASTER — Jaws ½" thick, 6½" wide and 2" deep open 4" when in place. Wt. 90 lbs. ONLY $90.00

JUNIOR — Jaws ⅜" thick, 4½" wide and 1¾" deep open 2¾" when in place. Wt. 40 lbs. ONLY $60.00

L-W ADJUSTO-QUICK CONTROL DRILL PRESS VISE AND FIXTURE HOLDER

The first wide range drill press vise that safely handles both rigid and non-rigid work without distortion. Quick action and adjustable pressure at the turn of a knob. Easy hand pressure on hardened and micro-ground bar locks and holds the work.

Precision-built to cut tooling costs and increase production. Heavy removable jaw inserts allow simple, quick adaption for low-cost jigs and fixtures.



		Only
4" Model	(5½" Opening)	$31.50
6" Model	(6¼" Opening)	$44.00
8" Model	(8½" Opening)	$57.00

Available with or without swivel base.

SEE YOUR INDUSTRIAL SUPPLY DISTRIBUTOR OR ORDER DIRECT, GIVING DISTRIBUTOR'S NAME

Adjusto-Quick JIG-LOK

Simplifies jig and fixture design. Pressure adjustment, 1 to 1500 lbs. Easy hand pressure securely holds work without distortion. One inch of the hardened locking bar is soft for easy machining. 4" x 4" base, $20.00, 5" x 5", $25.00

L-W CHUCK Co. 51 S. ST. CLAIR ST. · TOLEDO 4, O.

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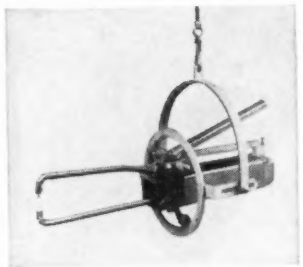
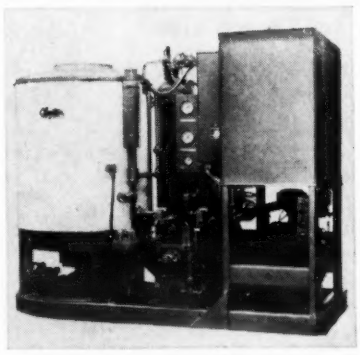
SPOT WELDER BALANCER
takes weight off operator's hands



Fatigue, errors, and accidents are markedly reduced with use of the Gyro-Bail accessory for spot welders. Device takes the weight off the operator's hands and functions equally well from boom and counterweight or spring-loaded cable. Spot welder equipped with the Gyro-Bail instantly adjusts itself for any angle of approach and can be used with minimum effort. Photo shows a Model LMSW-52 spot welder supported by the accessory. • **Miller Electric Mfg. Co.,** Appleton, Wis.

▲ For more details circle **NED-541 B1** on enclosed inquiry slip ▲

PACKAGED STEAM GENERATOR
110-hp oil-fired unit rated 200 psi



Self-contained 110-hp portable steam generator is a fully automatic oil-fired unit designed for 200 psi operating pressures. Intended for general industrial use, unit requires only water and fuel supply. It operates on the forced circulation principle, providing full steam pressure in about 3 min from a cold start. An integral engine driven generator supplies power for electrical controls. A combination condensate return tank and chemical water treatment tank are also part of the packaged assembly. • **Clayton Mfg. Co.,** 401 N. Temple City Blvd., El Monte, Calif.

▲ For more details circle **NED-542 B1** on enclosed inquiry slip ▲

PLATED FASTENERS
line includes bolts, nuts, screws

More than 250 types and sizes of hex cap screws, hex screws and nuts, carriage bolts, and lag screws are included in this line of Stanscrew plated fasteners. In addition to imparting a bright, attractive appearance, the commercial zinc plating assures protection from corrosion. • **Standard Screw Co.,** 2701 Washington Blvd., Bellwood, Ill.

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NINE IN THE LINE

Black & Decker's NEW Heavy-Duty Industrial Vacuum Cleaner line is long on cleaning power, offers you greater capacity—¼ bushel to 40 gallons—for all-purpose pick-up!

No matter where it is, furnace room or boardroom . . . no matter what it is, wet or dry pick-up, you clean up dirt faster, easier with B&D Heavy-Duty Vacuums.

Redesigned tank inlets for increased intake, convenient wet-disposal outlets on all new stainless models, modern B&D designed attachments . . . all this you'll find in B&D's new line of nine. See how B&D Vacuum Cleaners can help you keep clean. Send for your copy of "The Inside Story on a Dirty Business."

For sales or service, look in the Yellow Pages of your telephone book under TOOLS-ELECTRIC

Black & Decker®

B-D CUTS MAN-HOURS TO MINUTES

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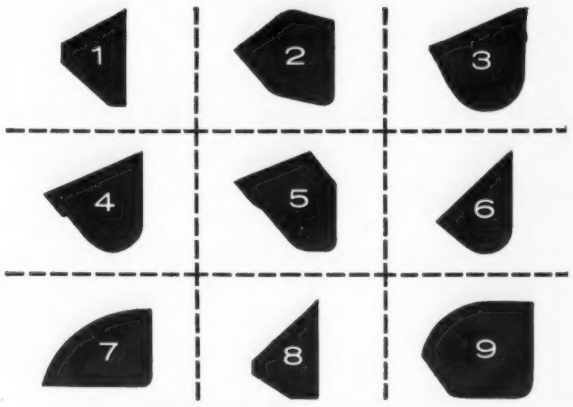
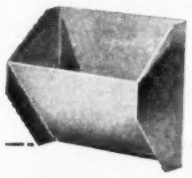


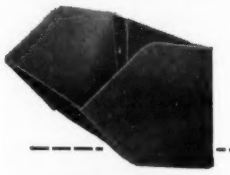
You'll find the right shape for every lifting job in

LINK-BELT'S elevator bucket brigade

STEEL fabricated types



1 CONTINUOUS AND SUPER-CAPACITY CONTINUOUS — For use where high capacity at low speed is desired. Discharge is fast and clean.



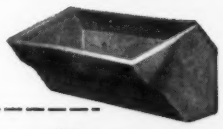
2 "HS" HIGH SPEED — For high-speed elevating of large capacities. High ends minimize spillage . . . low lip facilitates pickup.

3 SALEM—Shaped for proper filling and free discharge of granular or powdered free-flowing materials. Ends are folded around the back for extra rigidity.

CAST malleable types

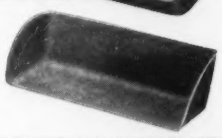
4 STYLE AA—Recommended for heavy, gritty materials such as sand, gravel, stone. Has a reinforced lip for digging and added wear life.

5 STYLE AC—For handling cement, crushed stone, and similar materials. Hooded back allows close bucket spacing for high capacity.



6 STYLE B—Used on inclined elevators handling coarse materials. Low front design assures clean discharge at relatively low speeds.

7 STYLE C—Designed for easy, efficient handling of finely pulverized or wet materials that have a tendency to stick or pack.



8 STYLE D—This continuous type bucket provides clean, gentle handling of coal, sand, gravel, crushed stone and other dry materials.

9 STYLE SC—Ideal for elevating materials which have a tendency to pack. Can handle greater capacities than styles A or C.

FOR FULL INFORMATION on Link-Belt's complete line of elevator buckets, contact your nearest Link-Belt office or authorized stock-carrying distributor. Or write for Catalog 1050.

15,391

LINK-BELT

ELEVATOR BUCKETS

LINK-BELT COMPANY, Prudential Plaza, Chicago 1, Ill.

▲ For more details circle **NED-544 B1** on enclosed inquiry slip ▲

•DUO-FAST•DUO-FAST•DUO-FAST•DUO-FAST•DUO-FAST•DUO-FAST•

NEW DUO-FAST STAPLE NAILER

Just a flip of the trigger drives this 2" heavy duty staple

Drives 4 tight-holding staples in less time than it takes to hammer one nail.

Ideal for assembling crates, boxes, frames and expendable skids. Magnesium light...easily portable...a one-hand tool...operates at 60-100 psi. Built-in safety features prevent accidental firing.

Send today for complete details on how this new Staple Nailer cuts packaging and crating costs.

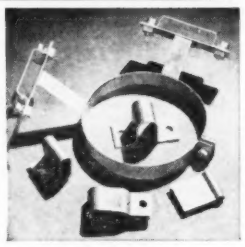
FASTENER CORPORATION 3708-06 River Road, Franklin Park, Ill.

DUO-FAST Staplers Tackers Staples

▲ For more details circle NED-545 B1 on enclosed inquiry slip ▲

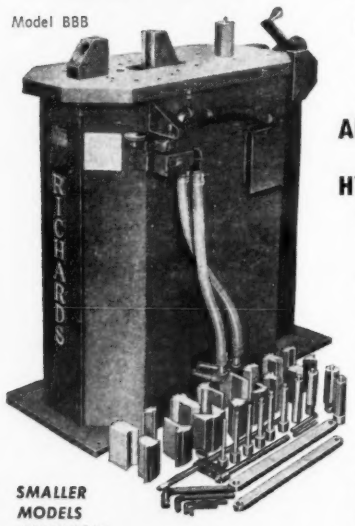
Multiform

BIG BROTHER BENDER



Illustrated above are a few of the many forms that can be produced efficiently on the Multiform Bender.

Model BBB



SMALLER MODELS AVAILABLE

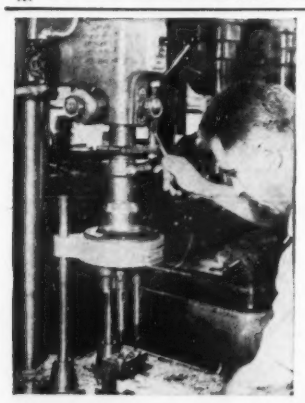
AIR OPERATED MODELS IN FOUR SIZES HYDRAULIC—3 MODELS

The heavy duty Big Brother Bender is designed for fabricating bus bars, brackets, fixtures, etc., without special tooling. Air controlled with finger tip response. Comes complete with dies, mandrels and wrenches—punching and blanking dies extra. Will punch holes up to 1" and form material up to ¼" thick by 4" wide. We also build smaller models, hand or air operated, for bending materials up to ⅛" x 1½".

Send for illustrated folder M6

J. A. RICHARDS CO. Myrtle & Pitcher Sts. Kalamazoo, Mich.

▲ For more details circle NED-546 B1 on enclosed inquiry slip ▲



MULTI-DRILL *makes holes at a* PROFIT!

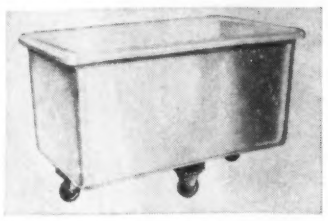
This Model 600 MULTI-DRILL,—an adjustable multiple spindle drill press attachment—fitted with optional Guide Rods, is drilling two ½" holes in a work piece at every stroke of the drill press—and is reducing hole costs to the basic minimum. The same unit is used on three other set-ups to drill holes ranging from 3/32" dia. to ⅝". Quickly adjustable spindles and heavy duty construction make this MULTI-DRILL a versatile time and money saving production tool that pays for itself many times over. Ask your nearby Commander Distributor to show you how a MULTI-DRILL can help solve your multiple spindle drilling problems. There's a model and size for any application or drill press.

Write for Production Tool Catalog. 108

Commander MFG. CO. 4220 WEST KINZIE • CHICAGO 24, ILLINOIS

▲ For more details circle NED-547 B1 on enclosed inquiry slip ▲

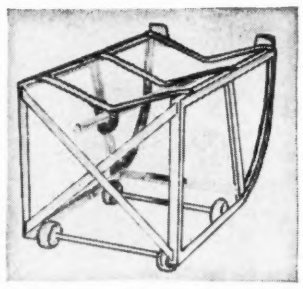
GLASS FIBER BOX TRUCK for dry or liquid bulk handling



Molded of glass fiber reinforced polyester resin, this watertight box truck resists corrosion from water, oil, and mild acids and alkalies. The inside surface is smooth with rounded corners to prevent dust and dirt accumulation. It withstands steam cleaning and is usable at temperatures from −40 to 212° F. Tapered design permits nesting when empty. Three sizes with capacities from 16 to 21 cu ft have tilt-mounted or level-mounted swivel and rigid casters with choice of 4 or 5 in. replaceable rubber tired or cushion tread solid rubber wheels. • **Hamilton Caster & Mfg. Co.**, 1700 Dixie Highway, Hamilton, Ohio.

▲ For more details circle NED-548 B1 on enclosed inquiry slip ▲

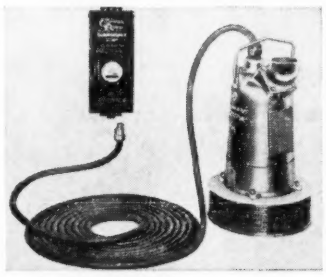
DRUM & BARREL CRADLE supports 15 to 55-gal sizes



Handling bar incorporated in this improved drum and barrel cradle makes it possible for one man to load and unload it without assistance. It supports 15 to 55-gal size containers. Three-inch diameter steel wheels make the cradle portable. Six models can be furnished with or without handling bar or wheels. • **Lexco Engineering & Mfg. Corp.**, 20 W. Chestnut St., Souderton, Pa.

▲ For more details circle NED-549 B1 on enclosed inquiry slip ▲

SUBMERSIBLE PUMP delivers 10 gpm at 120-ft head

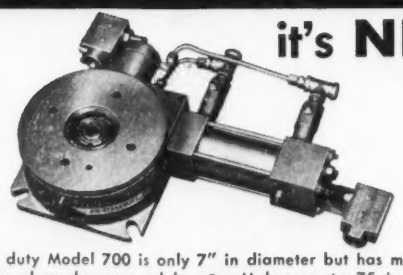


Capacity range from 10 gpm at a 120-ft head to 300 gpm at a 10-ft head is afforded by Model 3VS1 3-in. centrifugal submersible dewatering pump, powered by a 5-hp motor. It is offered for single-phase, 230-v; three-phase, 220-v; or three-phase, 440-v ac operation. Motor, seal, and bearings run in oil for protection against overheating and environmental changes. Unit is offered with remote control box and 75 ft of electrical cable and has 88 sq in. of open strainer area. It will pass spherical solids of ⅜ in. diameter and pump down to 1 in. of pit bottom. • **Gorman-Rupp Co.**, 305 Bowman St., Mansfield, Ohio.

▲ For more details circle NED-550 B1 on enclosed inquiry slip ▲

LOW COST 7" INDEX TABLE

it's NEW



The heavy duty Model 700 is only 7" in diameter but has most of the features found on larger models • Makes up to 75 indexes per minute • Handles maximum work load of 100 lbs. • Maximum power stroke is 3 times line pressure • Operates on pressures from 60 to 175 p.s.i. • Clockwise rotation with either 4, 6, 8 or 12 stations standard • Others up to 24 stations and counter-clockwise rotation, to order • Bolt larger sub-plate (up to 14" dia.) to ground steel table for larger work area • Positive index—no override • Adjustable cushion and speed control • Each table checked for guaranteed accuracy of index (± .0015"), concentricity and parallelism.

WRITE NOW FOR FREE CATALOG AND PRICE INFO.

AIR-HYDRAULICS INCORPORATED

231 HUPP AVE. JACKSON, MICHIGAN

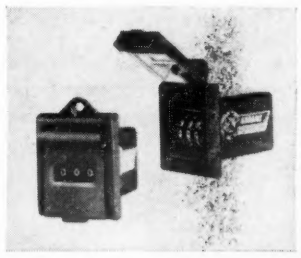
▲ For more details circle NED-551 B1 on enclosed inquiry slip ▲

STORAGE FEEDER-ORIENTOR handles up to 7200 pieces per hour

This storage feeder-orientor unit has four times the parts range and three times the production rate of previous models. Orienting is accomplished by a vibratory, straight-line, tuned frequency unit which is supported under the elevator chute for over-the-top work discharge to the orientor tooling. Unit will not only feed and orient several sizes of valves, but adapts to handling connecting rods at 1500 per hour, headed and ball studs at 3600 to 7200 per hour, stampings with predominant ears or flanges, and many similar pieces. • **Campbell Machines Co.**, 18634 Fitzpatrick, Detroit 28, Mich.

▲ For more details circle NED-552 B1 on enclosed inquiry slip ▲

MINIATURE COUNTER three-figure unit is lighted

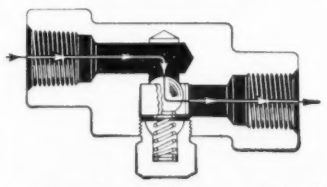


Either additive or subtractive versions for 6, 12, 24, or 110-v dc operation are available in the Model CE-L miniature magnetic counter. A small light in the cover illuminates the three counter wheels. Capable of recording up to 20 pulses per second, it is suited for use in a −65 to 160° F range under conditions of 95 per cent relative humidity. Minimum life is 1 million counts. Weight is 3¼ oz and size is 1 5/16 x 2 x 2⅝ in. • **Abrams Instrument Corp.**, 606 E. Shiawassee St., Lansing 1, Mich.

▲ For more details circle NED-553 B1 on enclosed inquiry slip ▲

CHECK VALVE for hydraulic or air systems

Sensitive ball check in the forged body of this check valve provides full flow in one direction and instantaneous checking in reverse. Accelerated opening occurs at low differentials without chatter. All internal parts are stainless steel. Operating pressures are 3000 psi for aluminum bodies and 5000 psi for steel and stainless steel bodies. Available sizes are ⅛, ¼, ⅜, ½, and ¾ in. Safety factor is 5 to 1. • **Auto-Ponents, Inc.**, 3001 Grant St., Bellwood, Ill.



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FORMULA FOR AIRLESS SPRAYING

THE H-GUN + HYDRA A IRLESS = F INE F INISHING

Pat. Pend.

THE H GUN is the only airless spray gun proved by production line experience to give finest quality finishing. The only airless spray gun that provides **total atomization!**

- **Perfect feathered spray pattern**
- **Full gun control**
- **No flooding or pigtails**
- **Material savings average 40%**

ORDINARY AIRLESS H-GUN

Two spray patterns compare the H-GUN and ordinary airless. Each is same material at equal pressures.

HYDRA A IRLESS 30 is a 30-1 ratio, quality-built, airless pump designed specifically for airless spraying. Loafs on conventional work—has plenty of reserve power for the toughest jobs. The remarkable combination of the H-GUN and HydraAirless 30 meets every requirement from heavy maintenance to the

Finest Finishing!

Ask your nearest Spee-Flo distributor for a demonstration or write to

Complete Systems from $725.00

The SPEE-FLO Company 6614 Harrisburg, Houston 11, Texas.

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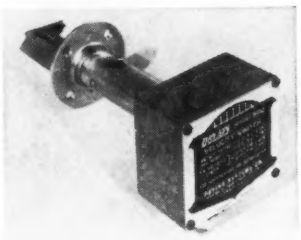
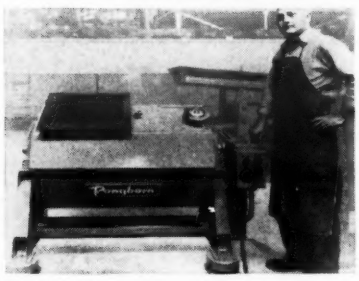
AIR VELOCITY SWITCH
is easily installed in ducts



Actuated by the air velocity in a duct, but unaffected by static pressure or suction, Model 960 velocity switch has single-pole double-throw relay with contacts rated 10 amp on 115-v ac. It can be mounted in any position on intake or discharge side of fan. This magnetically actuated switch responds to velocities as low as 1000 fpm. • **Drying Systems Co.**, 1800 Foster Ave., Chicago 40, Ill.

▲ For more details circle **NED-556 B1** on enclosed inquiry slip ▲

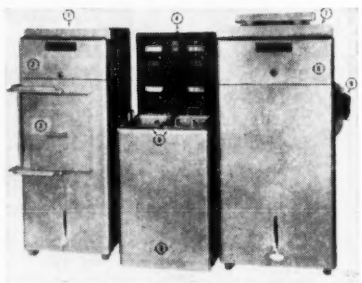
VIBRATORY FINISHER
has capacity of 1½ cu ft



Rubber-lined work container of the Model 1½ YA vibratory finishing machine holds up to 500 lb of media and workpieces in its 1½-cu ft chamber. The compact, self-contained unit is suited for processing metal, plastic, and ceramic items. Mechanical motion control makes possible infinite variation of frequency. Amplitude is also variable. When placed on air-cushioned floor mounts, no vibration is transmitted to the floor. • **Pangborn Corp.**, Pangborn Boulevard, Hagerstown, Md.

▲ For more details circle **NED-557 B1** on enclosed inquiry slip ▲

HEAT TREATING FURNACE
is 3-in-1 unit for toolroom use



The advantages of a full-scale heat treating department are offered by this Model EH 3-in-1 small tool furnace. The preheat furnace has a maximum temperature of 1850° F, while the recirculating air type drawing furnace features accurate control of temperature to 1200° F. The high temperature furnace with Globar elements can operate at up to 2400° F. Furnaces, oil pump, and controls operate on 220-v 60-cycle ac. Oil and water quench tanks are provided, as is an Endogas atmosphere generator. • **Waltz Furnace Co.**, Dept. 13, 1901 Symmes St., Cincinnati 6, Ohio.

▲ For more details circle **NED-558 B1** on enclosed inquiry slip ▲

NEW, IMPROVED KANT-SLAM HYDRAULIC DOOR CHECK

STOPS SLAMMING DOORS!

CLOSES Large or Small Doors, Screen Doors and Gates–Easily, Gently, Smoothly

STOPS Slamming...Banging...Broken Door Glass...Insects...Drafts...Heat Loss

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KANT-SLAM closes doors with efficiency of human hand. Hydraulic action—NOT an air check—piston works in oil. **New! Improved packing for smoother-than-ever, more efficient operation!** 3 years' trouble-free service guaranteed. Price about half of other hydraulic controls.

Works any place along hinge side of door—top, middle or bottom—either right or left hand doors. KAN'T-SLAM is completely self-contained—door and hinges are absolutely free of any strain or pressure. Holds door open when past 90 degrees.

Only one size Check required—three sizes easily detachable springs available for various size doors. Simple screw adjustment for closing speed.

ATTRACTIVE DARK BRONZE METALLIC LACQUER FINISH HAMMERED BRONZE EFFECT

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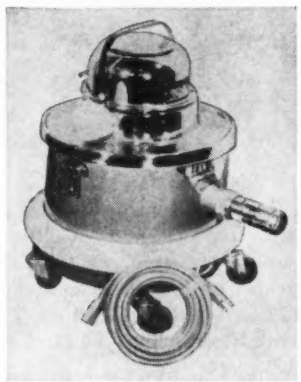
KANT-SLAM DOOR CHECK CO.
871 W. Spring St., Bloomfield, Indiana

▲ For more details circle **NED-559 B1** on enclosed inquiry slip ▲

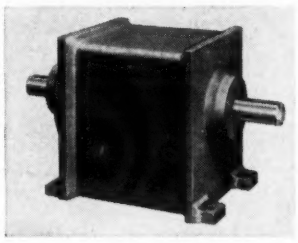
WET-DRY VACUUM CLEANER
is lightweight, mobile unit



Weighing only 25 lb, Model 200 industrial and commercial vacuum cleaner has both wet and dry pickup. Powered by a ½-hp 115-v motor, it has a 2-gal water pickup and ¼-bu dry capacity. The enamel-lined tank resists acids, detergents, and alkalies. It has easy-swivel casters, heavy nonmarring plastic bumper, and is only 19 in. high. Easily carried with one hand, it can be used for blowing by reconnecting hose to exhaust. A full range of tools is offered. • **Cassidy Products, Inc.**, 2285 University Ave., St. Paul 14, Minn.

▲ For more details circle **NED-560 B1** on enclosed inquiry slip ▲

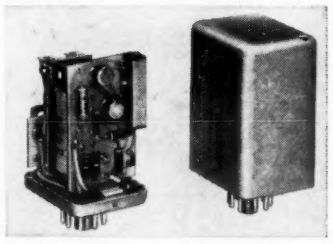
CLUTCH & BRAKE UNIT
operates at up to 1200 rpm



High performance clutch-brake drive for use on industrial and special machines and automation equipment is offered in six sizes for foot or flange mounting. Maximum operating speed is 1200 rpm. Clutch and brake are mounted in an integral steel housing and operate in an oil bath. Larger sizes have forced air cooling. Clutch can be actuated by any three-way pneumatic or hydraulic valve, whereas brake is spring operated. Latter is released by mechanical interlocking with clutch. • **Sommer Associates**, 326 N. Western Ave., Chicago, Ill.

▲ For more details circle **NED-561 B1** on enclosed inquiry slip ▲

TIME DELAY RELAYS
adjustable in ranges to 60 sec



Four Model T-164 time delay relays have adjustable ranges of 50 to 500 milliseconds up to 5 to 60 sec. Suited for commercial, industrial, and military uses, this packaged control combines a standard relay, adjustable time circuit, and a two-stage transistor amplifier. Instant reset is possible with a pushbutton. They operate on 18 to 32 v dc at 10 ma with a selection of contact arrangements. A 9-pin octal base or three-stud mount with solder lugs is optional. • **General Automatic Corp.**, 111 33rd St., Union City, N. J.

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PERMACEL Wash 'N Wipe Cloth
. . . for quick, clean, water-free wipedown of all metal, glass or wood surfaces.

PERMACEL NEW BRUNSWICK NEW JERSEY

Tapes • Electrical Insulating Materials • Adhesives

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"PERSONALIZED" MOTORS
FOR YOUR NEW PRODUCT
Planned, Designed and Manufactured
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Years of experience in creating fractional horsepower motors for exacting product requirements means you get the RIGHT MOTOR, mass-produced at the most favorable cost.

FREE! Write today for descriptive folder, and information on how you can set up a "Motor Conference".

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Lamb Electric SPECIAL APPLICATION FRACTIONAL HORSEPOWER **MOTORS**

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RED GIANT: *Rugged, Dependable—Year after Year*

Red Giant Hand Lift Trucks are available in eight basic models and with a range of sizes and capacities in each model.

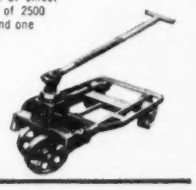
Tremendous strength without excessive weight, all steel construction, electric arc welded members, long bearing surfaces, and most of all, the simple and correct design, enable these Red Giant Lift Trucks to stand up under constant use—even abuse—year after year.

Smooth operation, a non-kicking, spring-balanced handle for complete safety—these are some of the features which make RED GIANT the most practical truck of its kind.

INDEX No. 51.15
Red Giant Model K. Job tested handling skids of building materials on skyscraper construction projects. Capacity 1500 lbs. Hydraulic lowering check.

INDEX No. 51.13
Red Giant Model J for movement of skids. Two stroke mechanical lift eases effort required to lift load. Capacities 2500 lb. and 4000 lb.

INDEX No. 51.14
Red Giant Model S fully hydraulic lift and lowering. For movement of skids. In capacities of 2500 lb. to seven and one half tons.



INDEX No. 51.21
Red Giant Model JKT for handling single faced pallets. Mechanical lift and hydraulic lowering check. Capacities 2500 lb. and 4000 lb.

INDEX No. 51.22
Red Giant H2½VP fully hydraulic lift and lowering for two faced pallets. Separate pump handle for lifting in limited space. Capacity 2500 lbs.

INDEX No. 51.22
Red Giant hand lift truck for two or three ton loads on two faced pallets. Fully hydraulic lift and lowering. Capacities 4000 lb. and 6000 lb.
Model SVP

INDEX No. 51.12
Red Giant Model H hand lift truck for movement of skids. Single stroke mechanical lift with hydraulic lowering check. 2500 lb. and 4000 lb. capacities.

REVOLVATOR CO.
ESTABLISHED 1904

Designers and Manufacturers of Portable Elevators, Power and Hand Lift Trucks, Hydraulic and Traction Elevators, Carboy and Barrel Dumpers, Portable Cranes, Positioners, Storage Racks, Turntables and Other Material Handling Equipment.

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NORTH BERGEN, NEW JERSEY
Sales Representatives in Leading Centers

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Handling Viscous Materials?

Parks-Cramer Co. offers complete jacketed piping service

We can take complete charge of your jacketed piping projects — Lay out the piping — Supply all materials — Make the installation.

We will also assist your engineers in laying out jacketed pipe lines to give most efficient service at least cost. We've been engineering piping since 1872.

Stocks are maintained of jacketed valves and fittings in sizes from 1¼" to 8" and all sizes of pipe and flanges for your convenience.

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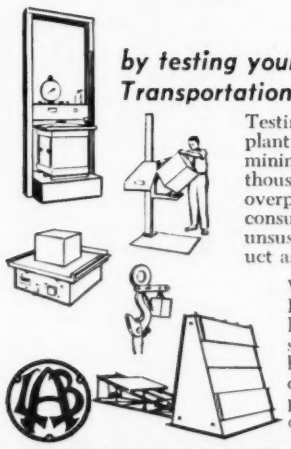
Parks-Cramer Company
PROCESS HEATING DEPARTMENT
FITCHBURG 3, MASSACHUSETTS

For more details circle NED-566 B1 on enclosed inquiry slip

Reduce Shipping Damage and Cut Packaging Costs

by testing your packages with L.A.B. Transportation Simulators



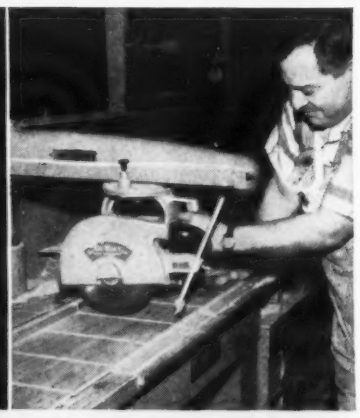
Testing packages in your own plant cuts shipping damage to a minimum and can often save thousands of dollars by revealing overpackaging. Eliminates time consuming test shipping. Detects unsuspected weaknesses in product as well as packaging.

WRITE for new catalog of L.A.B. Transportation Simulators and Package Testers showing complete line of vibration testers, conbur (incline-impact) testers, compression testers, drop testers, quick release hooks.

L.A.B. CORPORATION • Skaneateles 8, N. Y.

For more details circle NED-567 B1 on enclosed inquiry slip

NEW DEWALT IDEAS BUILD NEW PROFITS!



Does the work of many machines!

DEWALT reduces your investment 60% or more. It does the work... saves the cost and space... of *many* power tools. Use coupon for free copy of new DeWalt IDEA BOOK.

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Please send free DeWalt IDEA BOOK.

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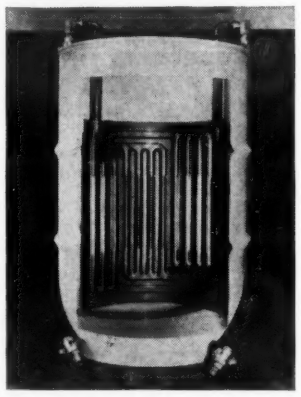
For more details circle NED-568 B1 on enclosed inquiry slip

METALS CALCULATOR
for tungsten and molybdenum

Weight and sizes of various tungsten and molybdenum shapes can be computed with this calculator. It has conversion tables for wire and rod and can also be used as a slide calculator for rounds, squares, tubes, sheet ribbon, and flat bar made of the refractory metals. Conversions are based on standard density figures of 19.17 grams/cc for tungsten and 10.14 grams/cc for molybdenum. A decimal equivalent table is included. • **General Electric Co.,** Dept. LMC-1, Nela Park, Cleveland 12, Ohio.

For more details circle NED-569 B1 on enclosed inquiry slip

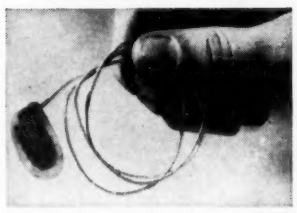
IMMERSION DRUM WARMER
six coil sizes fit 55-gal drums



Rapid heating of materials in 55-gal drums is obtained with this immersion type drum warmer, a Platecoil heat transfer unit rolled to fit the contour of the drum wall. Either serpentine or header construction is available, with inlet and outlet connections outside the drum. Six different sizes are made, with only the 22 x 29-in. size in mild steel stocked. This unit has a list price of $99.50 with hoses, $70 without hoses. The same size in Type 316 stainless steel sells for $226.50 and $197, with and without hoses. • **Tranter Mfg., Inc.,** Platecoil Div., 735 E. Hazel St., Lansing 9, Mich.

For more details circle NED-570 B1 on enclosed inquiry slip

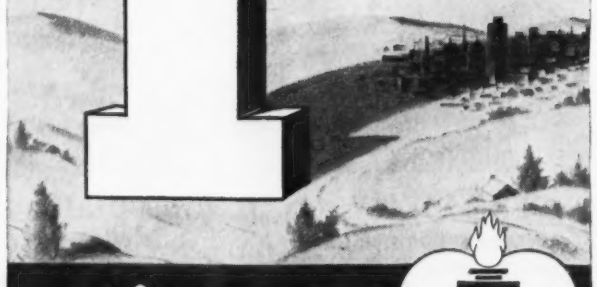
PRESSURE TRANSDUCERS
thin units are flexible



Frequency response and sensitivity are high, linearity is good, and hysteresis is low in Series 200 Filpip pressure transducers. These 1 x 1-in. pickups have a sensitive area of 1 cm². Response is only to normal forces. Hermetically sealed units can be used in the pressure range from 15 in. Hg vacuum to 100 psi. Being flexible and only 0.035 in. thick, they can be suspended or applied directly to plane or curved surfaces. Change in capacity with pressure is fed to bridge or resonant circuits. Price is $40 each. • **Spitz Laboratories, Inc.,** Yorklyn, Del.

For more details circle NED-571 B1 on enclosed inquiry slip

Fight HEART DISEASE #1 ENEMY

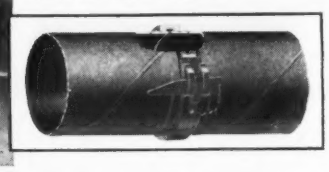


Give HEART FUND

NAYLOR...
The Economical Steel Pipe

Pipe sizes from 4" to 30" in diameter in a wide range of wall thickness. NAYLOR Spiralweld steel pipe . . . easy to handle and install with built-in strength and safety. Suitable for most industrial applications.

For connecting NAYLOR pipe, all types of flanges and mechanical couplings are available in addition to the NAYLOR Wedgelock coupling illustrated. This positive coupling anchors securely to pipe ends. A hammer is the only tool required to connect or disconnect it.



Write for Bulletin No. 59 for data on pipe, fittings and connections.

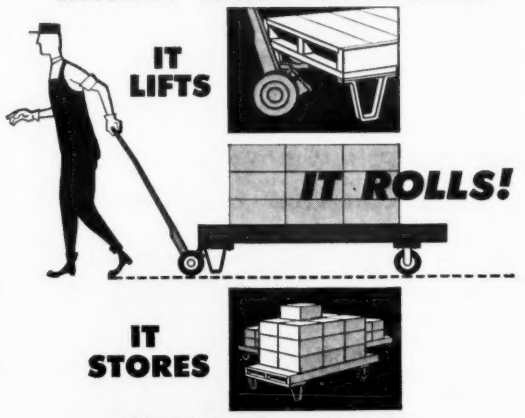
NAYLOR PIPE *Company*

1247 E. 92nd St., Chicago 19, Illinois

Eastern U.S. and Foreign Sales Office:
60 East 42nd Street, New York 17, N. Y.

For more details circle NED-572 B1 on enclosed inquiry slip

POWER TRUCK MOBILITY... WITHOUT POWER TRUCK COST!



Hamilton's exclusive
ROLL·N·STOR®

No double handling, no double costs with Hamilton Roll-N-Stor—the semi-live truck system that *lifts, moves and stores* loads quickly, easily—*keeps them mobile and ready to roll!* Easily moved by engaging lift jack to skid platform. One jack handles many platforms. System can also be used with lift trucks. Available in all-steel, steel bound, regular duty or heavy-duty wood construction.

WRITE FOR ROLL-N-STOR BULLETIN AND NEW FLOOR TRUCK CATALOG

The Hamilton Caster & Mfg. Co.
1761 Dixie Highway Hamilton, Ohio

For more details circle NED-573 B1 on enclosed inquiry slip

LEAD TIME CUT 2,300% ON CAMS

ENGINEERED AND PRODUCED BY EONIC
World's Leading CAM Manufacturers

Two Dimensional Cam and Gear made from one piece of bar stock

Three Dimensional Cam—over 12,000 calculations

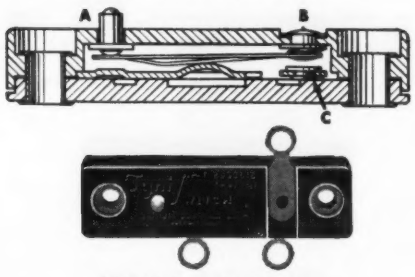
EONIC *Inc.* Engineers of Precision

Write For Bulletin Number 105

464 E. Hollywood • Detroit 3, Michigan

For more details circle NED-574 B1 on enclosed inquiry slip

DETROIT TYNISWITCH



SHOWN ACTUAL SIZE
LENGTH 1-5/8"—WIDTH 7/16"—DEPTH 11/32"

THIS SWITCH MAKES SNAP DECISIONS

You can push the Detroit TyniSwitch just so far before snap!—it changes its mind. A low operating force on actuator "A" snaps the beryllium copper blade across the gap "B-C." This cuff link-size switch is as precise as a good watch—resists shock and vibration with its simple, durable design.

Write—*right now*—for information.
American-Standard Controls Division,
5900 Trumbull, Detroit 8, Michigan.

AMERICAN-Standard
CONTROLS DIVISION

For more details circle NED-575 B1 on enclosed inquiry slip

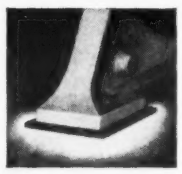
If you can use shears you can

CUT VIBRATION & NOISE

***with low-cost* MB ISOMODE® PADS!**

A pair of shears and a standard package of Isomode Pads...that's all you need to isolate troublesome shock and vibration on as much as 80 tons of machinery.

Made of durable, resilient DuPont neoprene, these ribbed pads support up to 50 lbs. per sq. in.—do an effective job of muffling plant noise and reducing maintenance costs on machines and buildings.



Installation is utter simplicity—simply cut to fit machine feet and install. No waste, no fuss, minimum down time. Write for prices and Application Bulletin No. 415.

MB ELECTRONICS
A DIVISION OF TEXTRON ELECTRONICS, INC.
1060 State Street, New Haven 11, Conn.

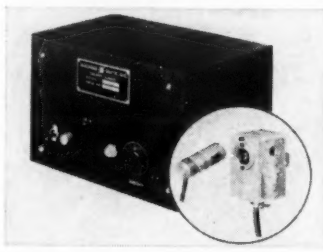
For more details circle NED-576 B1 on enclosed inquiry slip

WIRE WRAPPING TOOLS
make solderless connections quickly

Wrap-up solderless terminal connections are quickly made with this manual Wire-Wrap tool. It makes up to 10 revolutions each time the handle is squeezed. The 14H-1B and 14H-1A tools weigh 11½ oz and may be used with 22, 24, or 26-gage wire. Seventeen-ounce Model 14-IS makes multiple solderless connections with continuous lengths of wire. As it is moved to each terminal, wire is fed through the tool to form a jumper between terminals. Use is with 22 or 24-gage wire. • **Gardner-Denver Co.**, 1350 Front St., Quincy, Ill.

For more details circle NED-578 B1 on enclosed inquiry slip

WEB-BREAK DETECTOR
signals break and stops machine



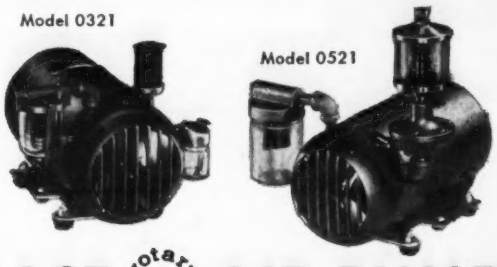
Whenever a break or peel occurs in web material being processed, this web-break detector actuates a signal and cuts off power to the press or machine. Completely electronic in action, it simultaneously scans the web at one, two, or three points. Three photoelectric scanning eyes are spaced horizontally or vertically along the web at strategic points. Flaws are also checked. • **Machine-O-Matic, Inc.**, 717 Chicago Ave., Evanston, Ill.

For more details circle NED-579 B1 on enclosed inquiry slip

THICKNESS MICROMETER
vernier reads to ten-thousandths

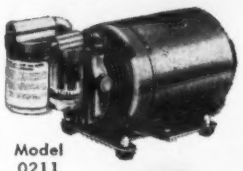
The Cady Dead-Weight thickness micrometer can be fitted with a vernier scale to obtain direct readings to ten-thousandths from 0.001-in. dial graduations. Unit has a gravity-descent anvil and thickness capacity of ½ in. Spherical or flat end anvils are available and can be carbide-tipped to order. Anvil is raised by lever for inserting material to be measured. Throat capacity is 4 in. • **E. J. Cady & Co.**, 630 N. Harlem Ave., River Forest, Ill.

For more details circle NED-580 B1 on enclosed inquiry slip



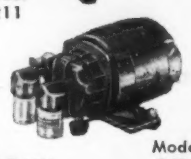
GAST rotary vane AIR PUMPS
— Vacuum or Pressure —

- **Four sizes—Built-in motors**
- **Compact, portable, reliable**
- **For O.E.M., plant or lab use**



To reduce weight, save space and cut costs—use Gast Integral-Motor-Pump Models! Fitted for vacuum—or as air compressors. For oil-free air, some offered with oil-less construction. Very compact and dependable. Positive displacement.
Used as original equipment on instruments, test units, etc. Capacity from ½ to 3.8 cfm; to 28" vacuum or to 25 psi.

Model 0211



Model 0406

Write today for Bulletins V-P-356!

Gast Manufacturing Corp., P.O. Box 117R Benton Harbor, Mich.

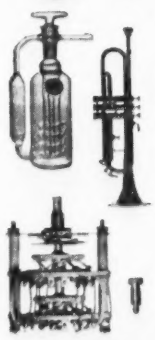
GAST ROTARY
"Air may be your answer!"
• AIR MOTORS TO 7 H.P.
• COMPRESSORS TO 30 P.S.I.
• VACUUM PUMPS TO 28 IN.

For more details circle NED-581 B1 on enclosed inquiry slip

The most complex cleaning jobs are easy . . . with Westinghouse ultrasonic cleaning equipment

Whatever your cleaning problem . . . whether for intricate new products or a variety of production parts . . . the job is easier with High-Power Westinghouse ultrasonic cleaning equipment.

It's faster and more efficient than other cleaning methods. No hard scrubbing . . . no harsh solvents. Westinghouse ultrasonic cleaning equipment reaches into the tiniest crack . . . blasts away clinging soils from complex assemblies . . . usually in seconds.



Westinghouse ultrasonic generators incorporate advanced solid state trinistors to achieve greater reliability, higher efficiency, and smaller size. The new Westinghouse Magnopak transducers deliver twice the usable power of other transducers for the same electrical input. Standard tank sizes: 1½ to 16 gallons, or custom sizes.

Ask the Westinghouse Industrial Electronics Department, 2519 Wilkens Ave., Baltimore 3, Maryland, for information on how ultrasonics can solve your cleaning problem. You can be sure . . . if it's Westinghouse.

J-35024

Westinghouse

For more details circle NED-582 B1 on enclosed inquiry slip

DAY Pneumatic Conveying and Bulk Storage News

FREE! 2 valuable guides for selecting PNEUMATIC CONVEYING and BULK STORAGE TANKS

Whatever your pneumatic conveying or bulk storage problem, look first in these DAY bulletins. They are valuable aids in selecting and ordering the right equipment for your plant. For your free copies use reader service card of this magazine or write direct toDAY.

BULLETIN M-588—12 page DAY pneumatic conveying guide just off the press. Discusses types of systems, illustrates and diagrams high and low density arrangements, shows equipment and tells "why" and "wherefore" of all types of pneumatic conveying including so-called fluidizing systems.

BULLETIN 574—12 pages, describes horizontal and vertical storage tanks. Points out savings and is filled with photos of various installations plus description of auxiliary equipment.

The **DAY** *Company*

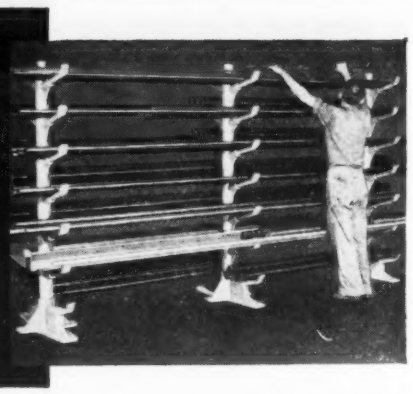
Sold in UNITED STATES by
The DAY SALES Company
866 Third Avenue N.E., Minneapolis 13, Minn.

Representatives in Principal Cities

EQUIPMENT ONLY OR A COMPLETE SYSTEM

For more details circle NED-577 B1 on enclosed inquiry slip

SAVE SPACE • SAVE TIME



Store and remove stock quickly—either by hand, fork truck or overhead crane — using the proved Brown Method for efficient storage. Brown Stock Racks, spaced as required, store more in less space . . . reduce handling from a long end haul to a short lateral movement. Stock is quickly visible for fast selection . . . easily accessible from the sides or ends.

Very low installation costs . . . all components are slip-fitted . . . no bolting or tools needed. Base brackets, trays and other accessories are available to increase usefulness. Both single arm wall racks and double arm racks are available.

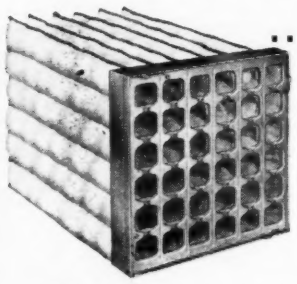
Brown Engineering Co., 129 N. 3rd St., Reading, Pa.

■ Get complete data on Quick-Serve Racks. Write today for bulletin.

BROWN FLEXIBLE STOCK RACKS

▲ For more details circle NED-583 B1 on enclosed inquiry slip ▲

NEW! DRI-Pak SERIES 2000



...a high-efficiency unit filter from AAF!

● AAF's new DRI-Pak Series 2000 filter combines high efficiency, low resistance, compactness and large dust-holding capacity to a degree unequalled by any other dry-type unit filter.

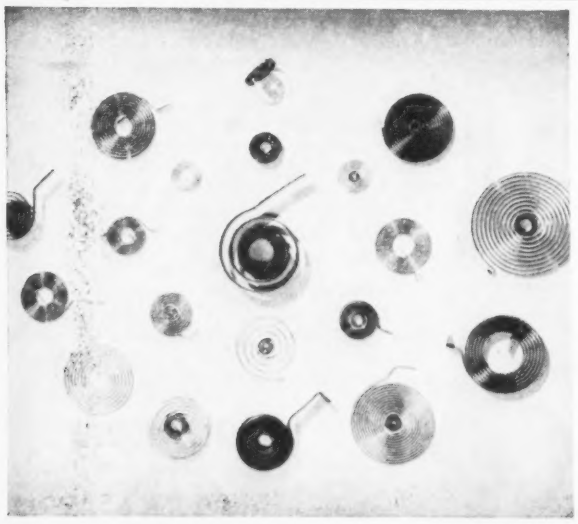
There are 95 square feet of filtering media in one unit yet an 8-inch-deep carton holds *two* filters. The secret is in the DRI-Pak's unique "windsock" operation. The "tubes" of the media inflate to a 36-inch depth when the system is in operation but collapse when the system is shut down.

For complete product information, call your local AAF representative or write us direct for Bulletin No. 228. Address Mr. Robert Moore, American Air Filter Company, Inc., 391 Central Avenue, Louisville, Kentucky.

AAF American Air Filter

BETTER AIR IS OUR BUSINESS

▲ For more details circle NED-584 B1 on enclosed inquiry slip ▲



Hairsprings

Manross Division of A.S.C. is one of the oldest makers of hairsprings used in instruments, meters, gauges, watches, etc. Accuracy and dependability assured. Write for hairspring booklet giving helpful design and material selection information.

Associated Spring Corporation

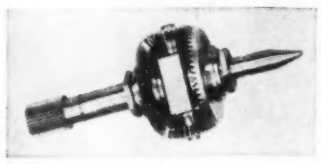
General Offices

Bristol, Connecticut

9828

▲ For more details circle NED-585 B1 on enclosed inquiry slip ▲

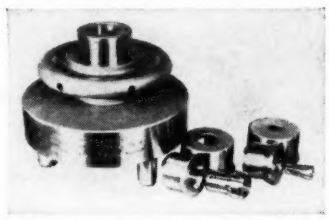
MINIATURE DIFFERENTIAL
for 75 oz-in. loads, 3500-rpm speeds



Model X-1943 miniature differential for use in servo systems and for integrating mathematical functions in computing equipment is designed for loads up to 75 oz-in. and speeds to 3500 rpm. Precision bevel gears are axially adjusted during assembly to hold backlash to 1½ min with a 0.5 oz-in. checking load. Starting torque is kept to 0.1 oz-in. Hollow shaft construction permits various operating configurations, even as a breadboarding or prototype component. Unit is made of stainless steel and can be supplied in a range of end gear ratios. ● **Bowmar Instrument Corp.**, 8000 Bluffton Rd., Ft. Wayne, Ind.

▲ For more details circle NED-586 B1 on enclosed inquiry slip ▲

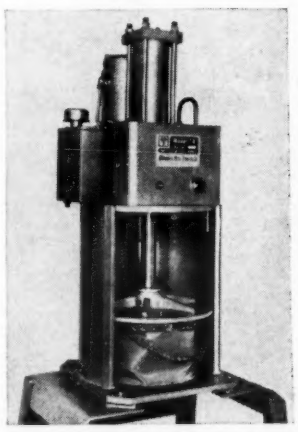
COLLET CHUCK
spans size range from ¼ to 1⅝ in.



Using standard 500 Series collets to cover the range from 1⅝ to 1 in. and two special insert noses which take Series 400 and 100 collets for 1 to ¼-in. work. Special Model 501 collet chuck is accurate within 0.0005 in. Each collet collapses 1/32 in. Two camming surfaces in the hardened steel collets collapse them throughout their length as the nosepiece is drawn in. They are self-releasing. ● **Erickson Tool Co.**, 34350 Solon Rd., Solon, Ohio.

▲ For more details circle NED-587 B1 on enclosed inquiry slip ▲

HYDRAULIC CAN CRUSHER
flattens heavy gage 5-gal cans

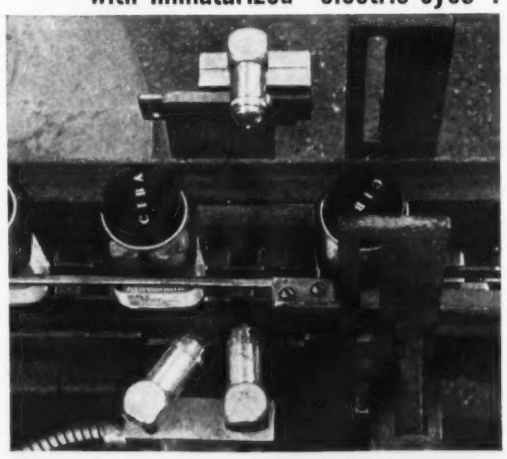


Pushbutton-operated hydraulic can crusher compresses metal cans to 10 per cent of their original mass for easier disposal. Exerting a pressure of over 12,000 lb, the 1½-hp automatic Can-Ram easily flattens heavy gage 5-gal cans, or any container up to 17 in. high and 13½ in. wide at up to 240 cycles per hour. It requires connection to 30-amp electrical supply and is available for 220 or 440-v operation. ● **Milwaukee Metal Products Co.**, 8004 W. Florist Ave., Milwaukee 18, Wis.

▲ For more details circle NED-588 B1 on enclosed inquiry slip ▲

AUTOMATION at its best...

with miniaturized "electric-eyes"!



Here is a typical engineered job by PHOTOMATION. It is only one example of the many applications of miniaturized "electric-eyes" for inspecting, counting, registration, sorting, quality control and all phases of packaging.

A complete staff of trained engineers is available for consultation. Prompt quotations and delivery.

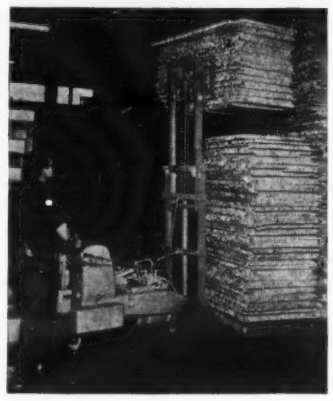
Photomation Inc.

96 SOUTH WASHINGTON AVENUE, BERGENFIELD, NEW JERSEY

Write today for detailed information.

▲ For more details circle NED-589 B1 on enclosed inquiry slip ▲

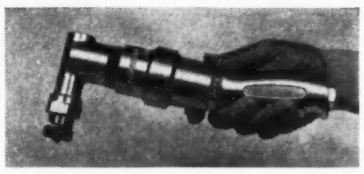
FORK LIFT TRUCK
carries 1000 lb at 8-in. load center



Heavy duty transaxle drive of Model L-812 fork lift truck applies driving force from a 7-hp Wisconsin air-cooled gasoline engine directly to the front load-carrying wheels. Capacity is 1000 lb at 8-in. load center, or 800 lb at 12-in. load center. The two-section telescoping mast, only 5 ft 8 in. high retracted, raises loads to 7 ft 6 in. A tilt cylinder facilitates load handling. The two rear wheels are connected by a shaft to a combination steering and clutch control. Pressing down steering control handles engages forward drive clutch; raising the handles engages reverse. Operator walks behind unit, or rides on optional hinged step. ● **Prime-Mover Co.**, Third & Oak Streets, Muscatine, Iowa.

▲ For more details circle NED-590 B1 on enclosed inquiry slip ▲

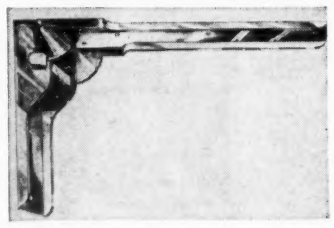
PNEUMATIC NIBBLER
cuts 0.064-in. steel at 6 fpm



Light in weight and easy to maneuver, Desoutter nibbler has a capacity to cut 0.064-in. steel at up to 6 fpm with radius as small as 1 in. Intricate contour cutting of a wide range of metals and materials is performed. Cuts can start from a drilled or punched hole for inside work or at edge of sheet. A clean 7/32-in. wide cut is obtained without burs or deforming of sheet. ● **Newage Industries, Inc.**, 222 York Rd., Jenkintown, Pa.

▲ For more details circle NED-591 B1 on enclosed inquiry slip ▲

FOLDING SHELF BRACKET
makes wall-hung shelves, tables



This heavy-duty E-Z automatic lock folding shelf bracket is designed for making drop-leaf wall table tops, shelves, work benches, and desks. The compact, one-piece, plated bracket has a spring-loaded pushbutton control that locks automatically in open position. It fits flush to wall and folds down flat. Set of two retails for $3.95. ● **Ardor Mfg., Inc.**, 611 S. Washington St., Royal Oak, Mich.

▲ For more details circle NED-592 B1 on enclosed inquiry slip ▲

DETECTO SCALES

and only DETECTO SCALES *can say*

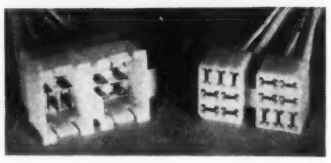
"ALL STEEL CONSTRUCTION"

Write for information on full line of industrial weighing equipment from 1/100 oz. to 100 ton:

DETECTO SCALES, INC.
Dept. D-4, 540 Park Ave.
Brooklyn 5, N. Y.

▲ For more details circle NED-593 B1 on enclosed inquiry slip ▲

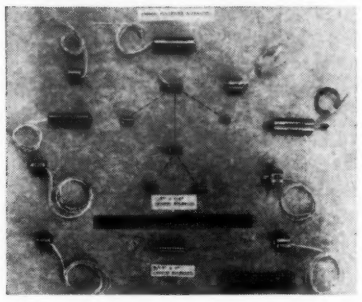
MULTIPLE CONNECTOR
for 7, 14, or 20 circuits



Though developed for use in appliances, Ampeez multiple circuit connector is adaptable to industrial, electronic, and other applications. This high amperage unit has low insertion and extraction force. It is rated 25 amp, has nylon housed contacts, and can be molded as a 14-circuit housing, two separate symmetrical housings, or a 20-circuit unit. • **AMP Inc.**, Eisenhower Boulevard, Harrisburg, Pa.

▲ For more details circle **NED-594 B1** on enclosed inquiry slip ▲

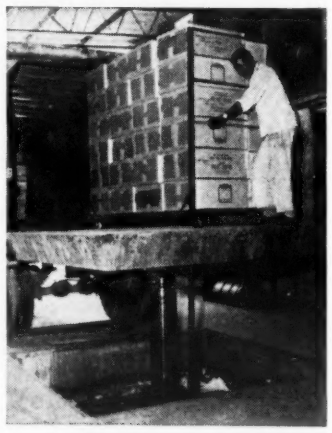
MINIATURE SOLENOIDS
rated ¼ w and up, 6 to 230 v dc



Made in diameters of ¼, 5/16, and ½ in., these miniature solenoids are available for 6, 12, 24, 36, 115, and 230-v dc operation in power ratings of ¼ w and up. They meet requirements of MIL-S-404OC for use in digital computers, printers, punched tape block readers, automatic calculators, high speed printers, integrated data processing equipment, tape readers, electronic counters, loggers, digital modules, and other electromechanical systems. • **Cannon Electric Co.**, 3208 Humboldt St., Los Angeles 31, Calif.

▲ For more details circle **NED-595 B1** on enclosed inquiry slip ▲

REMOTE LIFT CONTROL
for 8 x 8-ft 3-ton capacity unit



By connecting a 16-ft extension cord to the normally wall-mounted control box, remote control of this 8 x 8-ft platform lift is obtained. Control box of the 3-ton capacity, 58-in. lift unit can be carried by the operator for full control of the elevator from floor or on platform. Lift is hydraulically actuated from a 1-hp motor-driven power unit. • **Globe Hoist Co.**, Industrial Lift Div., E. Mermaid Lane at Queen Street, Philadelphia 18, Pa.

▲ For more details circle **NED-596 B1** on enclosed inquiry slip ▲

KODAK ANNOUNCES

Kodak

3 important new Kodagraph Films

Superb, high-contrast emulsions on new ESTAR BASE assure you of crisp, sharp, long-lasting, dimensionally stable reproductions of your drawings, maps, other documents. These three new ESTAR BASE films are also highly translucent, have an excellent matte surface on both sides . . . won't turn yellow or become brittle, and are moisture resistant. Available in cut sheets, and in rolls up to 52″ wide.

1. **Kodagraph Autopositive Film, ESTAR BASE.** Ideal for general reproduction work—gives you same-size positive intermediates *directly* without negative step.
2. **Kodagraph Contact Film, ESTAR BASE.** Bound to be a darkroom favorite in making same-size reproductions of old or weak line originals from film or low-cost paper negatives.
3. **Kodagraph Projection Film, ESTAR BASE.** Gives you sharp, clean results when enlarging microfilm negatives, or making reductions from film negatives.

Call local Kodagraph dealer for free folder, or write to Eastman Kodak Company, Graphic Reproduction Division, Rochester 4, N. Y.

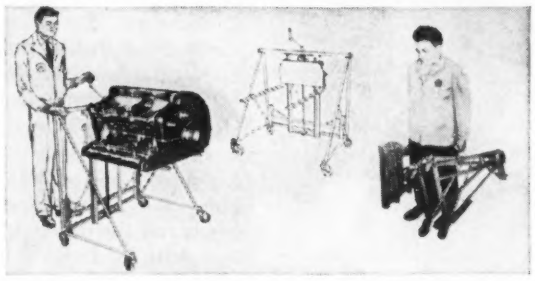
NEW! Kodagraph

REPRODUCTION FILMS

▲ For more details circle **NED-597 B1** on enclosed inquiry slip ▲

PORTABLE LIFT
raises 400 lb up to 31 in. high

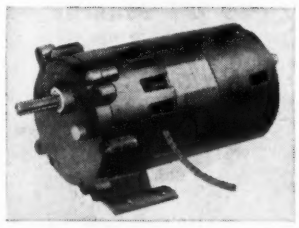
Quickly disassembled and assembled in less than 2 min, the Erect-A-Lift is capable of holding and transporting air conditioners, various types of machines,



and other loads weighing up to 400 lb. The compact portable unit can be carried in an automobile trunk, small truck, or station wagon. Only 11 lb of hand pressure is required to raise the load forks. Assembled unit lifts loads to a 31-in. height and fits all standard doors and elevators. • **Grand Specialties Co.**, 3101 W. Grand Ave., Chicago 22, Ill.

▲ For more details circle **NED-598 B1** on enclosed inquiry slip ▲

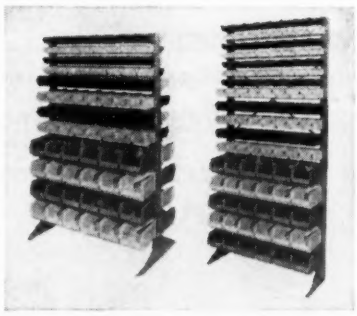
SUBFRACTIONAL-HP GEAR MOTOR
in nine speeds from 1 to 200 rpm



Continuous duty VW 22 subfractional-hp gear motor is a four-pole shaded-pole unit available in 1/30, 1/60, and 1/100-hp sizes and in nine speeds from 1 to 200 rpm. Less than 6 in. long with 4-in. diameter, unit weighs between 4 and 6 lb and meets high torque specifications. The fan-cooled unit has precision cut gears and oil impregnated bronze bearings. • **Von Weise Gear Co.**, 9353 Watson Industrial Park, St. Louis 26, Mo.

▲ For more details circle **NED-599 B1** on enclosed inquiry slip ▲

PARTS BOX RACK
holds up to 224 plastic bins



Available in free-standing single or back-to-back double units, these floor type storage racks are designed to handle up to 224 PB-1 Plastiboxes. The durable plastic parts boxes are readily hung on or removed from the rack for storage or assembly operations. • **G. B. Lewis Co.**, Dept. PBA, Watertown, Wis.

▲ For more details circle **NED-600 B1** on enclosed inquiry slip ▲

HAVE YOU TRIED **SAND BLASTING?** ★

SAVE up to 75% on required man hours for rust removal, scale removal, or metal finishing. SAVINGS on your first few jobs can pay for this amazing portable sand blaster that delivers up to 50% more power.

NEW **PORTABLE "SANDY JET" SAND BLASTER**

Model B

- Needs no separate blasting room.
- Light weight rugged construction.
- New pistol-grip for easy operation.
- Uses any easily obtainable abrasives.
- Three sizes of interchangeable sand nozzles and air jets, available to suit any job.
- Fast, intense, powerful, cutting action.
- Operates efficiently on 50 to 225 lbs. air pressure.
- Abrasive container holds 60 pounds of sand.

LOW COST

★ 10 day money back trial offer. Complete with face shield, operators' hood and two extra nozzles.

Write for catalog

Order from your distributor or directly from the factory.

ALC COMPANY
R.D. #5, Box 40, Medina, Ohio

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SEE THE COMPLETE LINE!

HILD

TRANSFERABLE HEAD

VACUUM CLEANERS

FOR USE ON YOUR OWN 55 GALLON DRUM

WRITE FOR INFORMATION
HILD FLOOR MACHINE CO. INC. NED-69
1217 W. Washington Blvd., Chicago 7

Manufacturers of Floor Machines and Industrial Vacuum Cleaners Since 1927

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UNIVERSAL

SELECT "O" RING KITS

Fills Replacement Needs on 85% of All Industrial Equipment

★ 180 "O" Rings in Each Kit—Sizes 1 to 25.
★ Patented Plastic Case Shows You "O" Ring Sizes in Kit at a Glance!
★ Interchange Data of All Leading "O" Ring Producers in Each Kit — All Manufacturers' Numbers Converted to Universal Numbers.
★ Buy Replacement Back-up Washers in these "O" Ring Sizes.

TEFLON	$115.95
BUTYL RUBBER	$ 47.95
STANDARD COMMERCIAL (Buna N)	$ 24.50
STANDARD SILICONE RUBBER	$ 66.90
VIM LEATHER BACK-UP WASHERS	$ 28.75
SELECT-O-RING KITS IN VITON	$124.50
AN 6227 SERIES	$ 59.50

RETAINING RING ECON-O-KIT

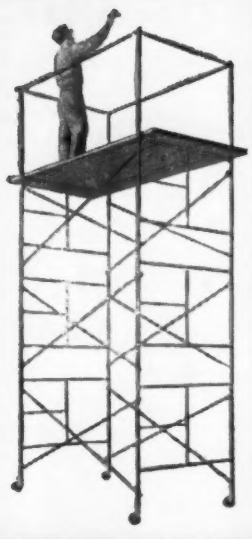
400 Truarc Cadmium Plated Rings
–84 Sizes–70% of Ring Sizes Used in Industry

Save—eliminate many purchase orders for small quantities of retaining rings — Get most sizes used on your equipment with only ONE order — in one shockproof, plastic case. Sizes from ¼ to 2½ inches in the three most used Truarc series of internal, external and universal crescent ring designs. All rings meet National Aircraft Standards NAS 669 and NAS 670. Low priced at $34.50 per kit.

Installation and removal tools also available.

Packaged Merchandise Co.
3067 W. 117th St. • Cleveland 11, Ohio

▲ For more details circle **NED-603 B1** on enclosed inquiry slip ▲



ROLL to the job anywhere

REACH overhead work

...with

SAFWAY

built-up scaffold work towers

Interchangeable parts assemble to any height and platform area

- build up towers to fit every job.
- work platforms at any levels.
- swiveling casters lock at the job.
- parts reassemble in many forms.

WRITE FOR BULLETIN 82N

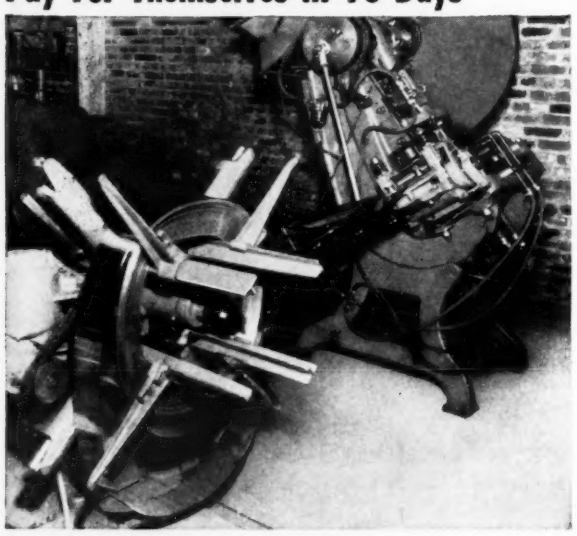
SAFWAY

SAFWAY STEEL PRODUCTS, INC., 6228 W. STATE ST., MILWAUKEE 13, WIS.

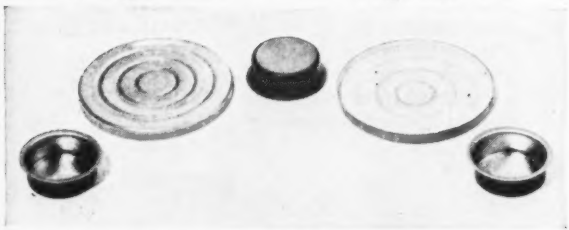
For more details circle NED-604 B1 on enclosed inquiry slip

LITTELL

Reel and Roll Feed Pay For Themselves in 90 Days



Increasing Output of these Stampings 300% on a single press



ACME Metal Cap and Closure Company of Brooklyn equipped a standard OBI press with a Littell Style M Roll Feed to replace hand feeding with automatic feeding. A Littell No. 10 Motor Driven Reel was also installed to maintain a continuing controlled flow of stock from coil to feed to die area. The result? An immediate 300% increase in press output. Acme's savings on this increased production rate paid for the Littell Feed and Reel in 90 days! Customers get better service, too.

Colly Says: "Acme's experience is one more example of the profitable stamping Littell equipment brings. Get the facts in these catalogs."

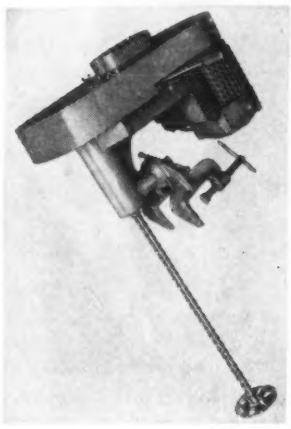
Series "A" for Feeds
Series "D" for Reels

F. J. LITTELL MACHINE CO.

4169 Ravenswood Ave., Chicago 13, Ill.

For more details circle NED-605 B1 on enclosed inquiry slip

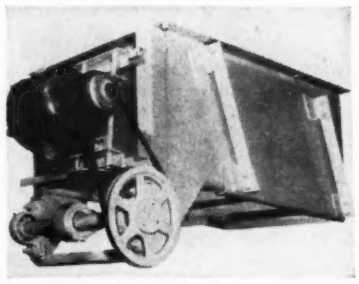
PORTABLE AGITATOR
has speeds from 260 to 4000 rpm



Dispersing paint pastes, thinning and tinting paints, and other mixing jobs are within the range of uses for the Wizard portable agitator. It delivers output speeds from 260 to 4000 rpm over a 9-to-1 range by the turn of a handle. Speeds as high as 4000 rpm are achieved by changing one V-belt and the driven pulley. Agitator has a 2-hp, 1750-rpm explosionproof motor, 1-in. diameter removable stainless steel agitator shaft, dispersion disc impeller, and cast aluminum double clamp bracket with vertical and sidewise angle adjustment. Mounting plate, quick-release chuck, and lower horsepower motors are optional. • **Patterson Foundry & Machine Co.**, East Liverpool, Ohio.

For more details circle NED-606 B1 on enclosed inquiry slip

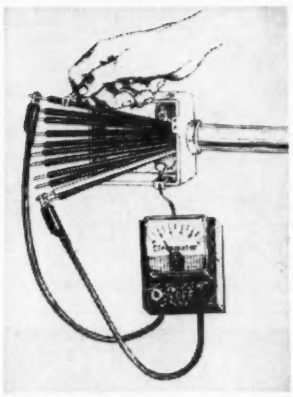
VIBRATORY FEEDER
capacities from 20 to 200 tons/hr



Coal, cinders, crushed stone, and sand are typical of the bulk materials that can be handled in hopper and flange type vibratory feeders. The flange type models for low-headroom applications have capacities from 20 to 200 tons per hour, while the hopper feeders for ground-level installations deliver 40 to 150 tons per hour. A variable-pitch motor sheave allows instant adjustment of rate of feed. • **Ridge Equipment Co.**, Fallentimber, Pa.

For more details circle NED-607 B1 on enclosed inquiry slip

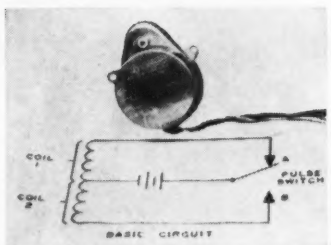
WIRE TRACER
identifies wires in conduit



One man can rapidly identify wires in conduit, raceways, or equipment for continuity with this Circameter wire tracer. It is also usable for continuity testing on a 0 to 100,000-ohm scale and for checking cables and harnesses. Magnetically shielded to perform accurately anywhere, the shockproof tester is furnished with a quantity of E-Z-Code wire markers numbered in sequence from 1 to 33. • **Western Lithograph Co.**, Products for Industry Div., 220 S. Rose St., Los Angeles 54, Calif.

For more details circle NED-608 B1 on enclosed inquiry slip

STEPPER MOTOR
pulses in 15-degree angular steps



Operating on low voltage, the Series 18100 thin, quiet stepper motor has a low radiated magnetic field and high accuracy. Operation with windings continuously energized in static condition or pulsing at rates up to 2400 steps per minute is possible. Its two coils must be alternately energized to obtain rotation in increments of 15 degrees. Positive magnetic detenting occurs at each of the 12 angular rotor positions, even under severe vibration condition and whether or not the coils are energized. Although unidirectional, its small size permits two units to be combined with a differential for bidirectional operation or algebraic addition. Operation is on 27 v dc. • **A. W. Haydon Co.**, 232 N. Elm St., Waterbury, Conn.

For more details circle NED-609 B1 on enclosed inquiry slip

IMITATED BUT NEVER EQUALED

MODEL 3000-30
With Cable Return Crank
1½ TON CAP.
30 FT. AIRCRAFT CABLE
Weight 14 lbs.
Price $56.20

Send For FREE CATALOG Showing 16 MODELS 29 CAPACITIES 750 TO 4000 LBS.

The LUG-ALL WINCH HOIST

Lifts—lowers pulls—stretches moves—tightens straightens & bends at any angle!

Overstrength aluminum alloy frame. Preformed high-strength flexible aircraft cable. Many other outstanding features.

Priced From $29.50

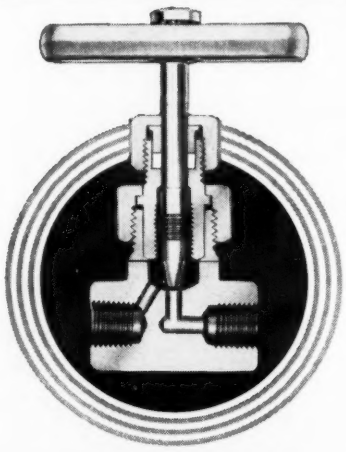
ESPECIALLY CORROSION-PROOFED MODELS FOR USE IN CHEMICAL PLANTS, MINES, ETC.

THE LUG-ALL® COMPANY

LUG-ALL HOISTS HAVE BEEN USE-TESTED SINCE 1949

HAVERFORD 8, PA.

For more details circle NED-610 B1 on enclosed inquiry slip



SOLVE YOUR METER MANIFOLD AND CORROSIVE FIELD SERVICE PROBLEMS

AMERICAN® NEEDLE VALVES

Teflon-packed forged steel American Needle Valves eliminate gland leaks, deliver dependable service under the toughest conditions. Stainless or carbon steel precision machined valve bodies are ideally suited for welding. Stainless steel centerless-ground valve stem design makes it simple to repack valves under pressure.

Standard valves design rated for pressures to 5,000 psi at 70°F. Upon request, assembled valves are hydrostatically tested to 10,000 psi (twice rated working pressure) and are individually inspected. Valves also furnished with graphite-impregnated asbestos packing for temperatures above 450°F.

Angle or straight patterns—screwed or union bonnets.

Your American Meter representative will give you full details.

AMERICAN METER COMPANY (INCORPORATED ESTABLISHED 1836)

General Offices: Philadelphia 16, Pa.

Sales Offices in Principal Cities

For more details circle NED-611 B1 on enclosed inquiry slip

BUCKEYE 58S SERIES AIR SANDER ...REMOVES 50% MORE METAL THAN ANY SANDER IN ITS CLASS!

Now you can increase sanding production without increasing tool cost. Buckeye 58S series Vertical Sanders have higher horsepower, higher torque and lighter weight (one hand operation) than any other sanders in their price class. They are available in governed and non-governed models . . . with speeds ranging from 1500 to 8500 RPM . . . with safety lever or thumb flip throttle . . . 5", 7" and 9" sanding pads . . . all models are muffled and have adjustable dead handle as standard equipment.

WRITE FOR A FREE TRIAL TODAY!

Remember Buckeye produces the most complete line of abrasive tools in the industry.

Buckeye Tools CORPORATION

P.O. BOX 966, DAYTON 1, OHIO

Pioneering Power Tools for Industry Since 1920

For more details circle NED-612 B1 on enclosed inquiry slip

with precision, direct reading Hunter Mechanical Force Gages*—Series L type in 13 models for measuring load ranges from 0-500 grams to 0-30 pounds and Series D type in 6 models for measuring load ranges from 0-50 pounds to 0-500 pounds. Both types are accurate to better than 1% of full scale, can be provided with a "hold-at-maximum" indicator for registering maximum load, come complete with six attachments and wood carrying case. Thousands are now in use in laboratories, inspection departments, on production lines, and in the field. Send for Bulletin 750c containing full details including prices.

*The "Force Gage" of many test standards.

HUNTER SPRING COMPANY
A Division of American Machine and Metals, Inc.
14 Spring Avenue, Lansdale, Pennsylvania

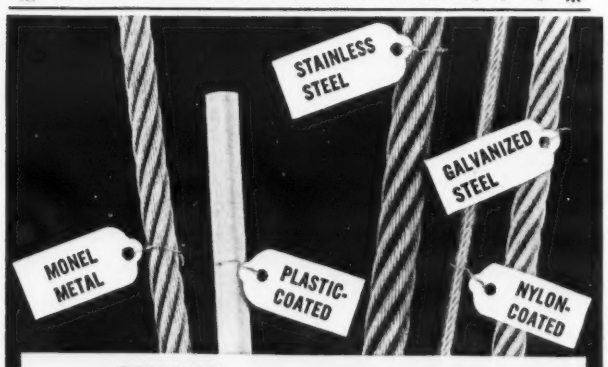
For more details circle NED-613 B1 on enclosed inquiry slip

DETECT and CORRECT "OFF-TIMING" IN AUTOMATIC OPERATIONS

New, portable Sheffield Monitorecord® helps you achieve proper timing, and sequence of cycles in automatic machining, gaging, transfer, and assembly machines. It charts duration and relationships of up to 14 different cycles. Comparison with master chart lets you diagnose and correct trouble. Machine can pay for itself in one use. Write for bulletin AU-108.

The **SHEFFIELD** *Corporation • Dayton 1, Ohio*
A subsidiary of The Bendix Corporation

For more details circle NED-614 B1 on enclosed inquiry slip



5 Here are Corrosion-Resisting Wire Ropes

These wire ropes are available to you in a variety of sizes to meet your many needs. Hundreds of industries — aircraft, chemicals, food processing, petroleum refining, rubber, yachting—rely on the ability of these wire ropes to give more economical service under various corrosive conditions.

Describe your needs and we'll gladly make wire rope recommendations. Macwhyte Wire Rope Company, Kenosha, Wisconsin, U. S. A.

217

MACWHYTE Wire Rope COMPANY

For more details circle NED-615 B1 on enclosed inquiry slip

CYLINDRICAL STANDARDS used for comparator setting

Used in place of gage blocks for comparator setting, these cylindrical standards are offered in 62 fractional sizes from 3/64 to 1 in. in 1/64-in. increments. Each Class X tolerance, 1 microinch finish gage is double ended, with both ends concentric within +0.00004, −0.00000 in. Size is etched on one end. Relief in the center allows use without handles with bench comparators and comparator micrometers. The 62-member set is priced at $161. Three other sets covering size ranges from 3/64 to 3/8 in., 25/64 to 5/8 in., and 41/64 to 1 in. are priced at $45, $41.50, and $74.50, respectively. Each is packaged in a compartmented plastic box. • **Deltronic Corp.**, 929 Baker St., Costa Mesa, Calif.

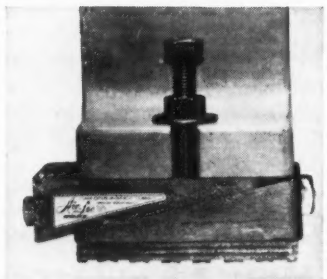
For more details circle NED-616 B1 on enclosed inquiry slip

DIAPHRAGM VALVES for pressures up to 6000 psi

More than 150 standard variations of body styles, orifice sizes, trim materials, and process connections are available in the DSG-240 diaphragm valve for working pressures up to 6000 psi. Offered either normally-open or normally-closed, valve is equipped with a pressed steel diaphragm case and nylon impregnated Buna N diaphragm. Topworks assembly is interchangeable on all models. Hammer union type body permits inner valve assembly to be replaced in less than 5 min. Valve is offered in 1 and 2-in. screwed and union connections, and in 2-in. flange connections. • **Instruments, Inc.**, Box 556, Tulsa, Okla.

For more details circle NED-617 B1 on enclosed inquiry slip

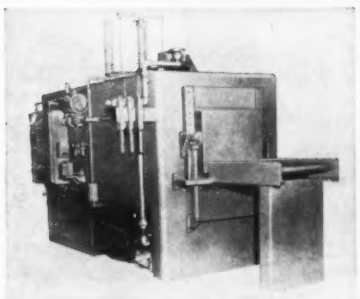
MACHINE LEVELING MOUNT absorbs vibration, prevents noise



Installation of the Bolt-On Wedgmount on any type of machine equips it with a combination vibration controlling mount and a leveling device. Attached to the machine by a bolt, it becomes an integral part of the machine. Moving the machine from one position to another is easily accomplished, as the Wedgmount remains in place and is not fastened to floor. • **Clark-Cutler-McDermott Co.**, 8 W. Central St., Franklin, Mass.

For more details circle NED-618 B1 on enclosed inquiry slip

BATCH TYPE FURNACE for precise metallurgical work



The highest metallurgical quality standards in carburizing, carbonitriding, carbon restoration, hardening, annealing, normalizing, drawing, brazing, and sintering are met by Rockwell - Mern Kleenmetal controlled atmosphere furnaces. These packaged batch type units are made in three standard sizes as well as special sizes with automatic transfer and loading and unloading platforms, cooling chamber, and sealed quench. The operating cycle is automatic, heat is generated by gas-fired alloy radiant tubes, and protective atmosphere is furnished by a separate gas generator. • **W. S. Rockwell Co.**, 200 Eliot St., Fairfield, Conn.

For more details circle NED-619 B1 on enclosed inquiry slip

DUST

CYCLONE

COLLECT IT WITH Hammond DUSKOLECTORS

FILTER

Your plant produces dust in a surprising number of locations. By collecting it at the source you:

- Provide healthier working conditions
- Protect costly machines
- Reduce cleaning and painting costs

Hammond Duskolectors don't cost—they pay!

Clip this page to your letterhead. Duskolector catalog with helpful engineering information and interesting installation views will be sent at once.

Hammond Machinery Builders INC
1623 DOUGLAS AVENUE • KALAMAZOO, MICHIGAN

For more details circle NED-620 B1 on enclosed inquiry slip

Nothing clamps a hose quicker, easier or more economically than Eaton-Reliance Hoz-Fas-Ner.® It stays tight, will not cut hose, and can be used for pressure *or* vacuum lines. Write for details.

EATON RELIANCE DIVISION MANUFACTURING COMPANY
509 CHARLES AVENUE • MASSILLON, OHIO

SALES OFFICES: NEW YORK • CLEVELAND • DETROIT
CHICAGO • ST. LOUIS • SAN FRANCISCO • LOS ANGELES

For more details circle NED-621 B1 on enclosed inquiry slip

FULL CONE—HOLLOW CONE—FLAT SPRAY

Spraco has the most complete line of nozzles available anywhere — **IN STOCK.** Capacities range from 1/8 pint/min. to 4000 gal./min. Bronze, cast iron, and stainless steel. Write for our nozzle catalog.

SPRAY ENGINEERING CO., *106 Cambridge St., Burlington, Mass.*

For more details circle NED-622 B1 on enclosed inquiry slip

Variac® AUTOTRANSFORMER

Cased model of the popular Type W5L for use on 120-volt, 60-cycle lines where output voltages from zero up to line voltage only are required.

Load rating is 1.1 kva with maximum current of 9.2 and rated of 7.1 amperes.

Industrial-type case with handle, off-on switch, overload protector reset from front panel, 3-wire convenience outlet and 60-foot, 3-wire grounded line cord. Supplied with 3-wire to 2-wire adaptor.

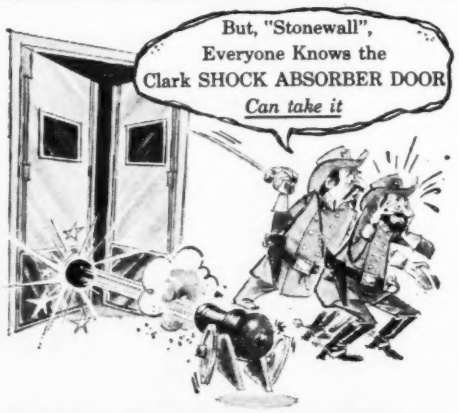
Type W5LMT3 VARIAC® Autotransformer: $34.50

Write for the Nov-Dec 1960 G-R EXPERIMENTER for Complete Data

GENERAL RADIO COMPANY
WEST CONCORD, MASSACHUSETTS

Broad Avenue at Linden, Ridgefield, N. J. **NEW YORK AREA** 1000 N. Seward St. **LOS ANGELES 38** 8055 13th St., Silver Spring, Md. **WASHINGTON, D. C.** 1150 York Road, Abington, Pa. **PHILADELPHIA** 1186 Los Altos Ave., Los Altos, Calif. **SAN FRANCISCO** 6605 W. North Ave., Oak Park, Ill. **CHICAGO** In **CANADA:** 99 Floral Parkway **TORONTO 15**

▲ For more details circle **NED-623 B1** on enclosed inquiry slip ▲



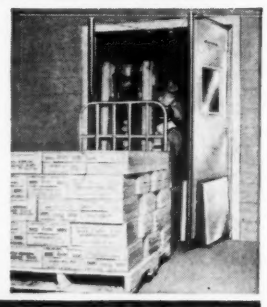
WON'T RIP, WARP OR COME OFF THE HINGES!

The BUMPER takes the Shock — *Not the DOOR!*

If you move materials, you want an Impact Door that **takes tough treatment.**

The Shock Absorber Door keeps traffic flowing long after ordinary doors have hollered "Uncle". Constant pounding by fork trucks can't weaken the hinges, the frame or the Door itself.

Flexibly suspended, this lightweight, rigid Door opens and closes freely, either manually or when pushed by a truck. Needs virtually no maintenance. Comes in a single easy-to-install unit. Write for full information.



CLARK DOOR COMPANY, INC. (since 1878)
511 Hunterdon Street
Newark 8, N. J.

▲ For more details circle **NED-624 B1** on enclosed inquiry slip ▲

When stamped on Anchor hydraulic components . . . the Anchor emblem is your definite assurance of constant, uniform quality in design, engineering and manufacture . . . and *complete reliability* in hydraulic transmission lines. Anchor fluid power components eliminate equipment downtime . . . production delays . . . idle manpower.

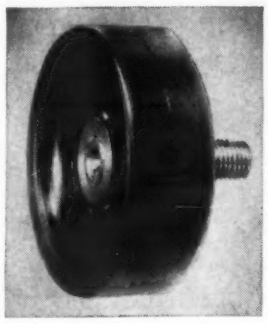
Anchor's comprehensive line of Hydraulic Hose Assemblies with Pressed-On, Reusable, Clamp-Type or 4-Bolt Split-Flange "O" Ring Head Couplings . . . Hydraulic Hose . . . Adapters, Adapter Unions, Pipe Fittings, and SAE Boss Fittings with the greatest variety of thread combinations—pipe, J.I.C., SAE—give long life, uninterrupted trouble-free service . . . with minimum maintenance.

Andy Anchor says:
"**Remember** . . . Send for the Condensed Catalog . . . to help you choose the *right* Anchor hydraulic component for your equipment."

ANCHOR Coupling Co. Inc.
337 North Fourth Street
Libertyville, Illinois

▲ For more details circle **NED-625 B1** on enclosed inquiry slip ▲

GLIDE WHEELS
for use on slotted angle racks



Two types of Dexion glide wheels are easily affixed to Dexion slotted angle and punched strap for making live storage racks, short-run conveyors, and other equipment. Lower priced Zytel 101 nylon wheels are quiet in operation and are fitted with a nylon bushing. They operate at up to 300° F and support a load of 25 lb per wheel. Steel glide wheels are made for long, low inertia conveyor runs where the slope is shallow. Both have a 2-in. diameter. • **Dexion Inc.,** 39-25 62nd St., Woodside 77, N. Y.

▲ For more details circle **NED-626 B1** on enclosed inquiry slip ▲

THERMOSTAT-SWITCH
has −65 to 520° F setting range

This HT-500 snap-acting high temperature safety thermostat features sealed construction, high temperature fused glass insulation, and long life. It is built into an engine head bolt and will shut off the magneto of air-cooled engines at head temperatures of 400 to 520° F. The single-pole single-throw, normally-open or normally-closed device has a temperature setting range of −65 to 520° F. Contact spacing and size are adequate to short magnetos or energize relays. • **Therm-O-Stats, Inc.,** Box 303, Chartley, Mass.

▲ For more details circle **NED-627 B1** on enclosed inquiry slip ▲

VARIABLE SPEED PULLEY
can be adjusted in small increments

Vibration, noise, and excessive belt wear are eliminated by use of this variable speed pulley, designed to preclude parallel and angular misalignment. Pitch can be precisely adjusted in small increments, and has a maximum variation of speed of 30 per cent in five turns. The pulley is suited for applications where speeds of the driven unit must be changed only seasonally, as in heating and air conditioning equipment. It cannot slip out of adjustment. Pulley handles 3L, 4L, and 5L belts and is available in ½, ⅝, and ¾-in. bores. • **Tann Corp.,** Congress Drives Div., 3750 E. Outer Dr., Detroit 34, Mich.

▲ For more details circle **NED-628 B1** on enclosed inquiry slip ▲

How to select

WORM GEAR Drives

FREE TO DESIGN ENGINEERS

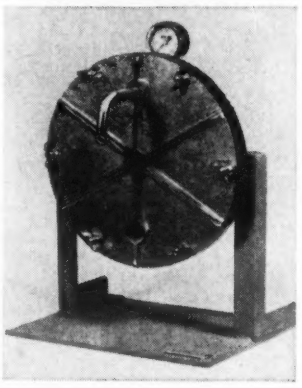
NEW Bulletin 218

Complete up-to-date information on Cone-Drive double-enveloping worm gear drives. Provides all specification data plus "how to select and order".

CONE-DRIVE GEARS
DIVISION MICHIGAN TOOL COMPANY
7171 E. McNichols Rd. • Detroit 12, Michigan

▲ For more details circle **NED-629 B1** on enclosed inquiry slip ▲

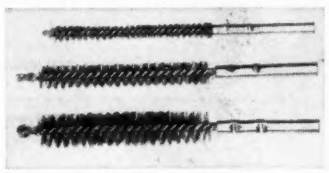
PROCESS FILTER
removes submicron size particles



Employing a porous plastic sheet with submicron holes as the filter medium, this process filter will handle hydraulic fluids, missile fuels, beverages, water, lubricants, and liquid chemicals. The sponge-like cavity arrangement acts as a sieve to trap all 0.1-micron and larger particles. Filter is housed in a stainless steel or nickel-plated bronze container and is supported by a sintered stainless steel plate. Three sizes are rated for pressures of 50, 100, and 500 psi. • **Gelman Instrument Co.,** 106 N. Main St., Chelsea, Mich.

▲ For more details circle **NED-630 B1** on enclosed inquiry slip ▲

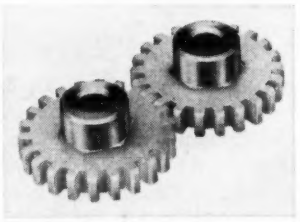
CONDENSER TUBE BRUSHES
for power or hand cleaning use



Four models make up this line of condenser and heat exchanger tube cleaning tools. Stainless steel wire brushes with either a double or single spiral are for stainless steel tubes; single-spiral brass wire brushes for brass or copper tubes; and single-spiral black nylon brushes for almost any type of metal tube where deposits are not too heavy. Diameters range from ¼ to 1 in. Cadmium plated extension handles from 12 to 36 in. long are available. Brushes are attached to 2½-in. cadmium plated nipples with female threads. • **Schaefer Brush Mfg. Co.,** 117 W. Walker St., Milwaukee 4, Wis.

▲ For more details circle **NED-631 B1** on enclosed inquiry slip ▲

CUT NYLON GEARS
have molded metal insert hubs



Strong, resilient, quiet-operating Nymet precision cut nylon gears with molded metal insert hubs are made in diameters to 3 in. with up to ¼-in. face in any quantity without a tooling charge. The gears have 14½ and 20-degree pressure angles in 12, 16, 20, 24, 32, and 40 pitches. Hubs are locked in place when gear blank is molded so that they resist shock, torsion, and vibration. • **Climax Metal Products Co.,** 863 E. 140th St., Cleveland 10, Ohio.

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All About:

- An amazing concentration of heat in 1/5th the space of ordinary units.
- Tests that prove longer operating life at higher watts densities — 5 to 10 times the life of ordinary units.
- Methods for determining your operating needs (charts, etc.) . . . for all this, and more —

Write for your free copy now!

WATLOW
ELECTRIC MANUFACTURING CO.
1374 Ferguson Avenue
Saint Louis 14, Missouri

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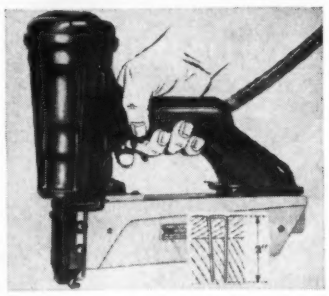
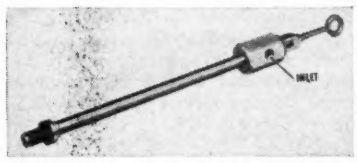
STAPLE NAILER
drives up to 2-in. heavy staples



A modification of the Duo-Fast S-762, Model S-763 staple nailer has greater drive power, improved safety cap, and a more positive magazine lock. Tool drives 16-gage galvanized staples from 1½ to 2 in. long at air pressures from 60 to 100 psi. It is used for crating and packaging, and making expendable skids, boxes, furniture, and wood frame assemblies. • **Fastener Corp.**, 3702 River Rd., Franklin Park, Ill.

▲ For more details circle **NED-634 B1** on enclosed inquiry slip ▲

GAS CONNECTOR-VALVE
connects gas lines to burners



Long shaft of the Quick-Seal Connecto-Valve enables workers to make rapid, leak-tight, hard-to-get-at connections of gas lines to burners installed in various types of equipment. The expanding seal, which seals threaded or smooth openings, is actuated by a cam handle in a 90-degree turn. At the same time an internal valve is opened, permitting gas to flow through the shaft and into the burner. Returning the handle to its original position shuts the valve and contracts the seal for withdrawal from the opening. Connecto-Valve is available in various standard types and sizes for use on gas, air, Freon, and vacuum supply lines. • **Mechanical Products Corp.**, 1716 W. Hubbard St., Chicago 22, Ill.

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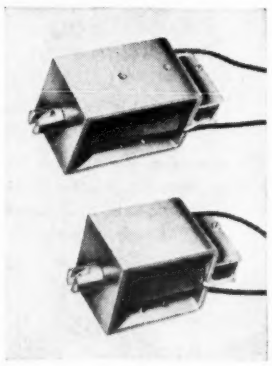
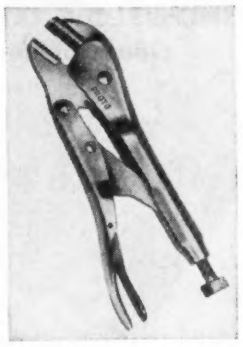
HIGH POWER SOLENOIDS
for direct-current applications



Type PS Power Serge solenoids derive their high force characteristics from a coil with two windings. One is a high surge pull-in winding which starts the solenoid plunger in motion, and the second is a low drain winding for holding the plunger in a seated position. The windings are switched automatically by the plunger motion. They are rated for continuous duty service in direct-current applications. • **Anderson Controls, Inc.**, 9959 Pacific Ave., Franklin Park, Ill.

▲ For more details circle **NED-636 B1** on enclosed inquiry slip ▲

LEVER-WRENCH PLIERS
release instantly



Locked jaws of the 291R lever-wrench pliers can now be instantly released even under maximum pressure. Capable of one-hand pressure up to 1 ton, tool functions as a hand vise, a clamp, a pipe wrench, and as pliers. Quick-release feature speeds clamping jobs. Price is $2.89. • **Proto Tool Co.**, 2209 Santa Fe Ave., Los Angeles 54, Calif.

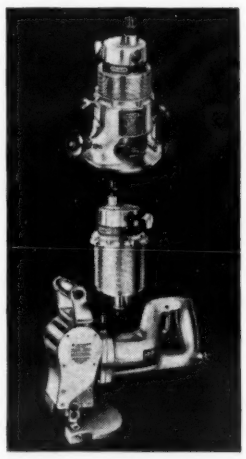
▲ For more details circle **NED-638 B1** on enclosed inquiry slip ▲

ADJUSTABLE SHELVING
clips adjust on 1½-in. centers

Positive-locking double-grip clips of Erectomatic Clip-Type shelving prevent wobble and safely support heavy loads. Hooked at the top, the clip is easily hung in any of the ¾-in. wide post slots spaced 1½ in. apart vertically. Shelves can be positioned as close as 3 in. apart and are inserted or removed without tilting or disturbing the contents of adjacent shelves. Clip-Type shelving can be combined and interchanged with standard Erectomatic shelving. • **Standard Pressed Steel Co.**, Box 581, Jenkintown, Pa.

▲ For more details circle **NED-639 B1** on enclosed inquiry slip ▲

PORTABLE AIR TOOLS
line includes shears, motor, router



Suited for standard and high speed production work, line of portable air-powered tools includes Unishear metal-cutting shears, air motors, and routers. Shear cuts up to 12-gage mild steel at speeds to 12 fpm and has a trigger throttle to control or vary speed. Start-stop lubrication is provided from an oil reservoir in the handle. Air motors and routers are offered with governed speeds from 6000 to 12,000 rpm and in ungoverned types for speeds to 16,000 rpm for operation on 90-psi air. Standard equipment includes router base, ¼ and ½-in. collets, and adaptor and chuck wrenches. • **Stanley Works**, Stanley Electric Tools Div., Dept. PD, 195 Lake St., New Britain, Conn.

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VALUABLE GUIDE

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Shows why Shakeproof® Lock Washers lock tight... *stay* tight! Describes complete line and illustrates types and sizes for every need. Contains helpful data on applications and ordering. Write for your free copy now.

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DIVISION OF ILLINOIS TOOL WORKS
St. Charles Road, Elgin, Illinois

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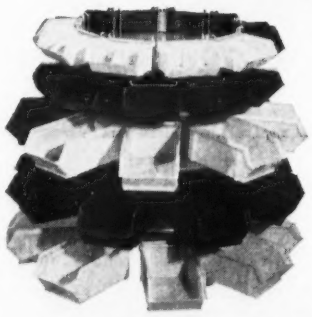
Lewis

PLASTIBOX ASSEMBLY CONTAINER ACCESSORIES

ROTARY BENCH STAND



The Rotary Bench Stand keeps parts and fittings at the worker's fingertips at all times. Easy turning action, but **stays** where it's placed for fast, efficient work. Mounts various combinations of three Plastibox sizes, or all one size. Boxes can be quickly and easily removed for refilling. A **low cost** accessory that will pay for itself in a few months!

PLASTIBOX MOBILE TRUCKS

Inexpensive Mobile Trucks are available to handle all Plastibox sizes . . . the truck shown will store and transport over 300 of one size! Trucks have two swivel and two rigid casters and are finished in grey enamel. Boxes can be quickly and easily removed for refilling or for bench work.

Write today for brochures showing complete details, other accessories, and prices.

MHI
Pacific Coast Show
BOOTH No. 506

G.B. Lewis COMPANY
402 Montgomery Street, Watertown, Wisconsin

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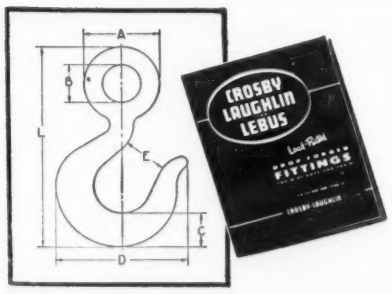
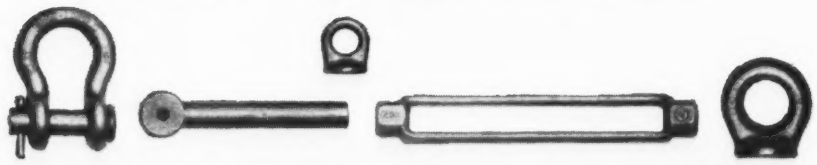


—YOUR FREE GUIDE*



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ready-to-install forged fittings

***Free catalog** gives application data for 2000 types and sizes of forged fittings for wire rope and chain. Ask your industrial distributor for your copy.

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FT. WAYNE, INDIANA

Division of AMERICAN HOIST

CL-956

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AVAILABLE WITH OR WITHOUT SKIRTS

4 Standard Sizes

Meet MIL-P-14 Specs

MODEL RB-1250-SK Illustrated

Molded of thermosetting phenolic or urea materials. Available in 4 standard sizes with nickel plated brass inserts for ¼" or ⅛" diameter shafts. Aluminum decorative inserts or skirts, etched and filled as desired . . . various anodized finishes, plain or radially spun. Write for new catalog illustrating Rogan's complete line of stock molded knobs.

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8001 N. MONTICELLO • SKOKIE, ILL.
Specializing In Stock Molded Knobs Since 1939

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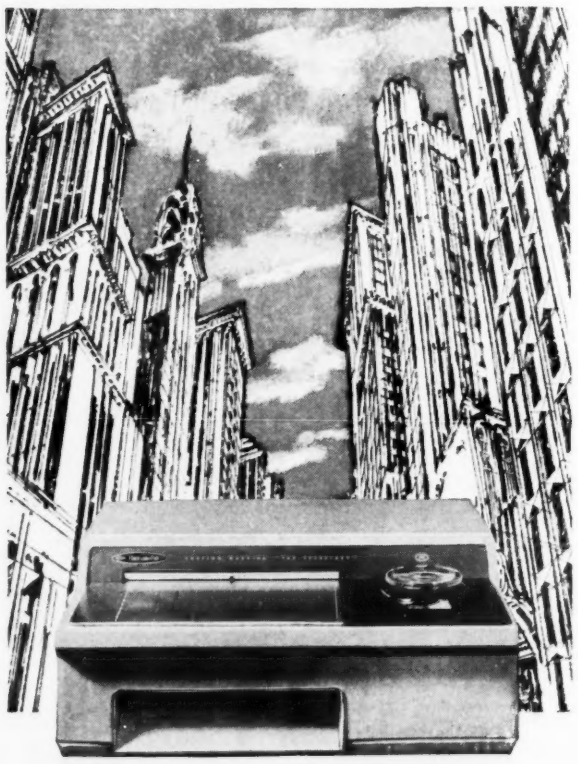

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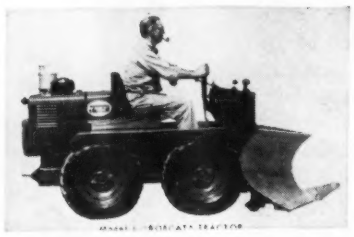
SNOWPLOW-TRACTOR
clears drives, walks, parking lots



Driven by a powerful 24-hp air-cooled engine powering all four wheels, Model L Bobcat tractor is especially suited for plowing in driveways, parking lots, sidewalks, and other industrial plant areas. It features lever crawler type steering, wheel guards, and simple controls. Optional equipment includes illustrated V-plow, Meyer trip-blade angle plow, dozer blade with scarifier, and roller. Attachments are easily mounted on front hydraulic lift mechanism. It is also an excellent utility tractor for other work. • **Whitman & Robinson**, Weedsport, N. Y.

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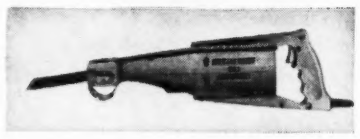
PNEUMATIC VISE
with light or heavy jaw fixtures

Two cross base keyways in this Airlox S-20 Compact Senior pneumatic vise allow position selection across a machine table. Vise is particularly adaptable for use on small mills, broaches, and drills. Vise has chip plate and felts, plus the movable jaw pressure grease system. Grip force is 50 times air pressure. Unit measures 16¼ x 7⅝ x 4⅛ in. and has false jaw faces measuring 6⅛ x 1½ x ½ in. Stroke is adjustable from 0 to ⅜ in., whereas jaw opening adjusts from 0 to 3½ in. Vise can be ordered with bolt hole spacing for using Junior vise jaw fixtures. • **Production Devices Inc.**, Whitehall, N. Y.

▲ For more details circle **NED-646 B1** on enclosed inquiry slip ▲

RECIPROCATING SAW
is handy portable electric tool



An assortment of 15 interchangeable blades plus a flush cut attachment enable this Super Saw to handle practically any cutting job. This portable electric reciprocating tool makes straight, curved, and circular cuts. It starts its own hole in wood and is powered by a ½-hp motor. Light in weight and easy to handle, it has a locking trigger switch and is balanced for vibrationless operation. A No. 550 Super Saw kit, priced at $97.50, includes tool, steel carrying case, 12 assorted blades, lubricant, and blade wrench. A direct drive Super Saw attachment for use on any heavy duty ¼ or ⅜-in. drill with a speed of 1750 to 3500 rpm is offered for $34.50. • **Millers Falls Co.**, Greenfield, Mass.

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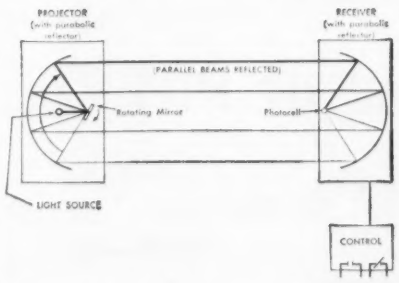
PHOTOELECTRIC SAFETY UNIT
stops machine if hand enters beam

Mounted directly on presses, shears, brakes, and other machines, the Curtain of Light photoelectric control automatically stops the machine when any part of a person's body enters the danger area. It consists of a wide-beam, rotating - mirror, modulated - light projector, a tuned photoelectric receiver, and a control unit. Standard "curtains" are 7, 12, and 17 in. wide. Light projector and receiver can be mounted up to 15 ft apart. The control units operate when 2 in. or more of the light curtain are obstructed. Device can also be used for manual operation to stop a press if interrupted on the downstroke. It will protect an operator on the downstroke and allow removal and placement of parts on the upstroke if desired, or it can be used for continuous operation. • **Clark Controller Co.**, 1146 E. 152nd St., Cleveland 10, Ohio.



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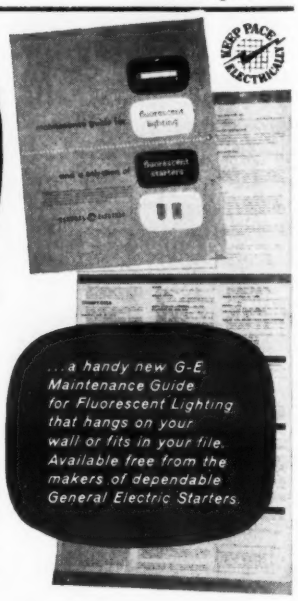

■ **Lists trouble symptoms and remedies on easy-to-use chart.**

■ **Helps you select properly matched components.**

This new G-E guide is a handy reference chart for maintaining your present system . . . and more! It helps you to determine whether, and how, *improvements* can be made in the combination of lamps, starters, ballasts, etc., that you have now . . . to deliver *more* of the type of light *you* require, at *lower cost*. It brings up points you may not have realized before, that can make your job easier.

Ask your General Electric distributor for the new G-E Maintenance Guide for Fluorescent Lighting, or write General Electric Company, Wiring Device Dept., Providence 7, R. I.

GENERAL ELECTRIC

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HOW MUCH WILL MECHANIZED FLOOR CARE SAVE YOU?

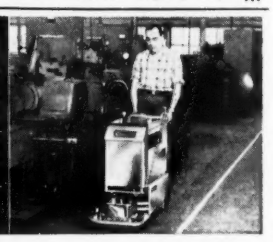

Figure it out by comparing the average time required for a man to mop your floors vs. *cleaning* them with a Clarke-A-matic Floor Maintainer:

FLOOR AREA IN SQ. FT.	ONE MAN WITH MOP	ONE MAN WITH CLARKE-A-MATIC	HOURS SAVED
20,000	20 hrs.	1½ hrs.	18½ hrs.
50,000	50 hrs.	4 hrs.	46 hrs.
100,000	100 hrs.	8 hrs.	92 hrs.

Translate this into dollar savings by multiplying your hourly labor cost by the hours saved with a Clarke-A-matic.

For example, if you have 50,000 sq. ft., it takes 50 hours with a mop, only fours with a Clarke-A-matic. You save 46 hours. Based on the national average labor rate of $1.50 per hour, *you save $69 every time you Clarke-clean your floors.*

And, Clarke-A-matic gets floors *clean*! It scrubs, picks up dirt and squeegee-dries, all in one self-propelled operation.

Ask to have your Clarke distributor tell you more about Clarke mechanized floor care. Write us today.

CLARKE FLOOR MACHINE CO.
DIVISION OF STUDEBAKER-PACKARD CORPORATION
222 E. Clay Avenue, Muskegon, Michigan

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5 TONS SHEET STEEL PER LOAD

• SPEEDS HANDLING
• LOWERS COSTS
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• AIDS SAFETY

One man picks up, delivers directly where needed and unloads, easier, faster, safer, with a Cleveland Tramrail overhead system and sheet grab. Hand or electrically operated equipment.

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THE CLEVELAND CRANE & ENGINEERING CO.
6627 East 285th St., Wickliffe, Ohio

CLEVELAND TRAMRAIL

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MagnaLift LIFT MAGNET with self-contained power supply

4000 LBS. CAPACITY

for scores of lifting jobs... for conveyors and other automatic handling equipment

Use it in the plant or outside. Removable power pack for complete remote control in mobile equipment—such as cranes, industrial trucks. Many other features you get only in MagnaLift—the *new*, the *different* lift magnet.

GET FULL DETAILS NOW. Write Dept. N-261 Model LM4, $385.00 F.O.B. Big Rapids, Mich.

3 Power Packs (interchangeable)
12-VOLT BATTERY
12-VOLT BATTERY—VARIABLE HOLDING POWER
110-VOLT A.C.—BUILT-IN D.C. RECTIFIER

Hanchett MAGNA-LOCK, CORP. BIG RAPIDS, MICHIGAN

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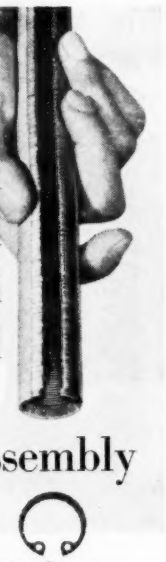
NOW!

pre-stacked industrial internal and external retaining rings for axial assembly



Industrial Series 3000 and 3100 Retaining Rings, PRE-STACKED—in sizes from .250" to 1.375"

Write for catalogs No. 30N and 31N.

Originators of modern retaining ring dispensing

IRR INDUSTRIAL RETAINING RING COMPANY

57 Cordier Street, Irvington 11, New Jersey

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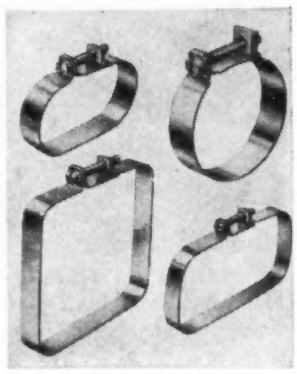
BAND TYPE CLAMPS are plated to resist corrosion



Offered in a wide range of band sizes and shapes, Auto Clamps are suited for such jobs as connecting duct, securing insulation, and clamping. Plated cold-rolled strip steel and stainless steel types are available with ½-in. wide solid flat bands and plated fillister head screws and nuts. Other screw head styles and materials are also available. • **Wittek Mfg. Co.**, 4305 W. 24th Place, Chicago 23, Ill.

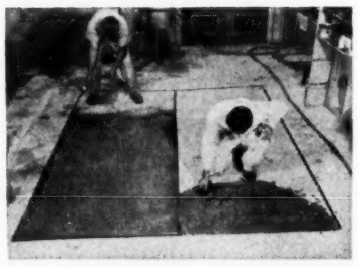
▲ For more details circle NED-655 B1 on enclosed inquiry slip ▲

BRAZING TORCH for using alloy metal powders

Built - in aspirator of this high temperature Braze Torch feeds powdered metal into the oxyacetylene flame. Powder is drawn from a small hopper attached to torch body. For volume work, a hose connection allows powder to be drawn continuously from separate large container. Feed control handle regulates rate of powder flow. Various alloy powders for a wide range of overlay and joining applications are available for use with the torch. • **Coast Metals, Inc.**, Little Ferry, N. J.

▲ For more details circle NED-656 B1 on enclosed inquiry slip ▲

FLOOR COATING SPRAY GUN applies coating as thin as 1/16 in.



Smooth, even coat of catalyzed coatings mixed with fillers such as silica and aluminum oxide is applied by the Carboline floor spray gun. Mixed material under air pressure passes from a tank through a 2-in. flexible hose to a round pattern spray nozzle. The material may be sprayed as thin as 1/16 in. or in any desired thickness in one coat. Thicknesses up to 3/32 in. can be applied on vertical surfaces. Mounted on ball bearing wheels for mobility, the 10-gal holding tank can be emptied in 10 to 12 min of continuous use. The contents cover 140 to 160 sq ft. Photo compares spray coverage with trowel application of the coating. • **Carboline Co.**, 32 Hanley Industrial Court, St. Louis 17, Mo.

▲ For more details circle NED-657 B1 on enclosed inquiry slip ▲

REVCO

ULTRA-LOW TEMPERATURE CABINETS

TEMPERATURES TO −140°F.

for
- Research
- Storage
- Seasoning
- Testing

Seven Revco cabinets, both chest and upright styles, are available. Capacities range from 1.5 to 6 cu. ft. in chests and to 22 cu. ft. in uprights. Units provide temperatures to −140° F. controllable within ±1°. Optional accessories are offered. Immediate delivery on all units.

For your FREE copy of the helpful folder, "Selecting a low temperature cabinet," write Revco, Dept. NED-21.

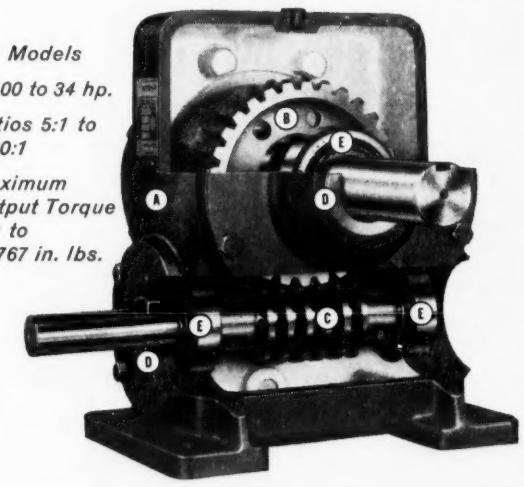
Industrial Products Div., REVCO INC. Deerfield, Michigan

Setting Trends in Refrigeration Since 1938

▲ For more details circle NED-658 B1 on enclosed inquiry slip ▲

Winsmith "C" series worm gear speed reducers

- *108 Models*
- *1/100 to 34 hp.*
- *Ratios 5:1 to 4460:1*
- *Maximum Output Torque 142 to 34,767 in. lbs.*



A. Cast Iron Housing—for high heat radiation, maximum strength and rigidity.

B. Special Bronze Worm Gears—for high strength and cooler, more efficient operation.

C. Case Hardened Steel Worms—cut integral with the shaft. Meet AGMA long-wear specifications.

D. Positive Oil Seals—keep oil in, dirt out. Shafts lapped for longer seal life.

E. Tapered Roller Bearings—for minimum maintenance, long bearing life, permanent shaft alignment.

Winsmith "C" Series reducers are compact units which offer a wide range of horsepower and torque in minimum space. They are available in single and double reduction models, for intermittent or continuous service. They can be ordered from stock with right-angle or parallel shafts, worm top or bottom, all worm gear or combined worm and helical. All types of special units are also available.

Winsmith Speed Reducers feature high shock load resistance, maximum thermal capacity without induced cooling, and greater overhung load capacity. These features add up to smooth, trouble-free performance—an extremely low rate of wear—high mechanical efficiency—and greater overall economy per horsepower dollar.

For complete information on Winsmith Speed Reducers, write today or call your nearest Winsmith Representative. You'll find one in every major industrial area, listed in the Yellow Pages. For both standard and special power transmission applications, you'll find it pays to standardize on Winsmith.

WINSMITH SPEED REDUCERS ®

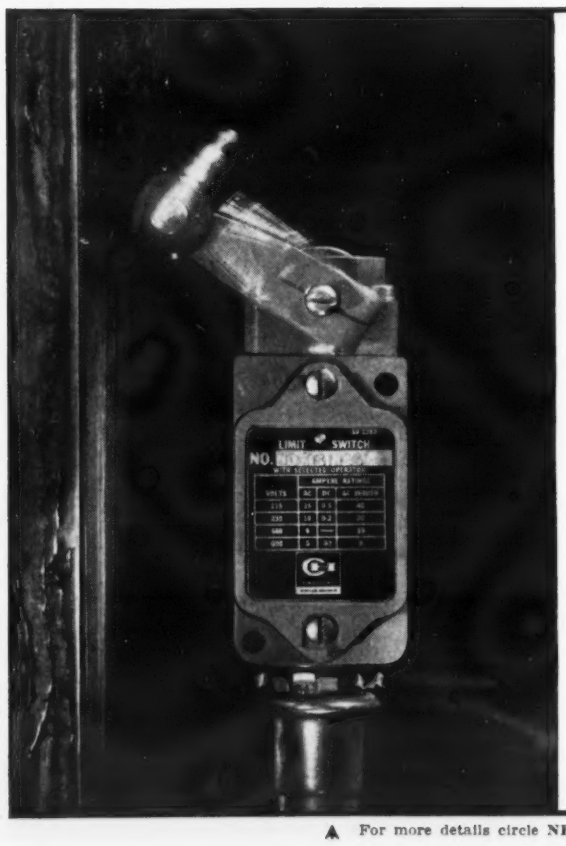
MEMBER OF AGMA

WINSMITH, INC.

216 Eaton St., Springville, (Erie County), N. Y.

• *Winsmith Speed Reducers are made by American craftsmen to meet American standards.*

▲ For more details circle NED-659 B1 on enclosed inquiry slip ▲



CONTROL

New! The most reliable limit switch ever developed

(from Cutler-Hammer, of course)

The serious problem of limit switch failures has now been greatly reduced thanks to Cutler-Hammer's new oiltight limit switch. Under test conditions much tougher than in actual production, our limit switches have lasted far longer than any other brand.

It fits almost anywhere and in any position. Change lever motion quickly in the field. No other switch sealed more effectively. Get facts in PUB. ED-143-C251.

WHAT'S NEW? ASK...

CUTLER-HAMMER

Cutler-Hammer, Inc., Milwaukee, Wisconsin • Division: Airborne Instruments Laboratory • Subsidiary: Cutler-Hammer International, C. A. • Associates: Canadian Cutler-Hammer, Ltd.; Cutler-Hammer, Mexicana, S. A.

▲ For more details circle NED-654 B1 on enclosed inquiry slip ▲

stops cement floor dusting!

WATERLOX®

TUNG OIL BASED PROTECTIVE FINISH

Waterlox Transparent Clear Sealer and Finish penetrates deep enough into cement floors to protect against dusting. Unlike ordinary surface-type coatings, Waterlox does not show signs of wear until the floor itself begins to wear. (Then another coat is needed.) Waterlox is easy to apply — just mop it on. Dries overnight into a clean-looking, non-slippery surface. Long-wearing, moisture resistant and easy to sweep. Used by industry for 25 years.

WATERLOX YOUR WOOD FLOORS, TOO . . .
Free 12-page folder tells how to maintain wood and cement floors for longest wear. Ask for "Floor Maintenance" folder.

WATERLOX DIVISION THE EMPIRE VARNISH CO.
2636 EAST 76th STREET • CLEVELAND 4, OHIO

For more details circle **NED-662 B1** on enclosed inquiry slip

NOW Controlled Tension From Start To Finish In Winding Roll-Fed Material

Never Before Anything So Efficient • Simple • Versatile

This is your chance to obtain a higher quality of wound material than ever before — and to save substantially on operating and maintenance costs at the same time.

You've never seen anything like the Hobbs "CHP" Winder. It's in a class by itself. No other winding device can match it for simplicity, efficiency and flexibility.

OPERATES ON A.C. Here is a squirrel cage three-phase A.C. motor, flange mounted to a gear reducer. It can be connected *directly* to your rewind shaft. It is entirely independent of the main machine drive. You plug it into your present three-phase power outlet — no transformers or converters to bother with. Then you set a knob to the desired tension and walk away.

AUTOMATICALLY SENSES TORQUE. From the start to the very finish of your rewind operation, the "CHP" accurately maintains the desired tension — protects even the most delicate materials from stretching, breaking or contracting. Automatically the "CHP" senses the increase in torque as the roll diameter builds up and it slows down the speed of the shaft in direct proportion. Controlled tension can be maintained in a roll build-up of as high as 10 to 1.

ECONOMICAL, FLEXIBLE. The efficiency of the "CHP" is many times greater than that of other types of winders. Maintenance is as slight as with any normal A.C. motor — there are no brushes or tubes. The "CHP" is compact, saves you floor space. It is clean, there are no belts to slip and stir up dirt. It is flexible — connect it directly to the rewind shaft, or remotely by chain and sprockets. And it needs no supervision, saves you labor costs.

MULTIPLE APPLICATIONS. The "CHP" Winder has already proved its adaptability and efficiency in multiple applications: — for winding, unwinding and inspection of paper, plastics, rubber and woven and non-woven textiles in a wide range of widths and weights.

Find out for yourself just why the Hobbs "CHP" Winder can make such a big difference — how it can give you increased production through *positive* quality control. Mail coupon below for free information. No obligation.

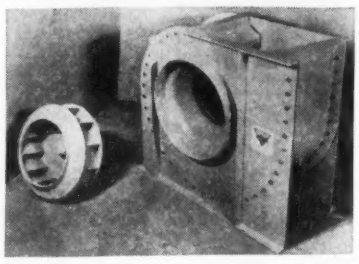
HOBBS MANUFACTURING CO.
418 Salisbury St., Worcester 5, Mass.

Kindly send complete information on the new Hobbs "CHP" Winder.

Name ..... *Title* .....
Company .....
Street .....
City ..... *Zone* ..... *Prov.* .....

For more details circle **NED-663 B1** on enclosed inquiry slip

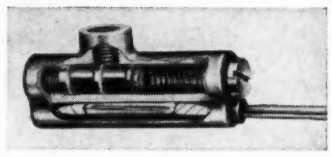
PLASTIC BLOWER HOUSINGS & FANS handle chlorine fumes at 250° F



High chemical resistance plus high strength - to - weight ratio are afforded by line of Duracor reinforced plastic centrifugal blower housings with Duracor - covered fan wheels. Units can be installed as separate components in existing systems, or integrally designed into entire exhaust systems. Unit shown is part of a system, including ductwork, in a chemical processing plant. It handles free chlorine fumes up to 250° F at a rate of 12,000 cfm. Both housings and ducts resist attack from practically any acid, alkali, or fume. • **Ceilcote Co.**, 4832 Ridge Rd., Cleveland 9, Ohio.

For more details circle **NED-664 B1** on enclosed inquiry slip

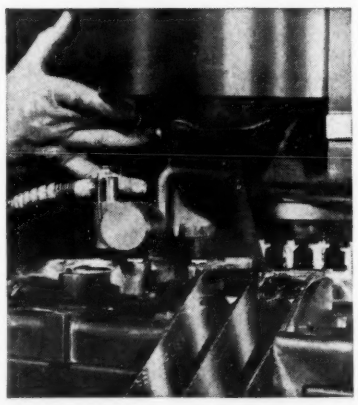
FLOW SWITCH actuates at a preset rate of flow



Sensitive Model FS-925 flow switch detects flow or lack of flow in small piping and tubing systems. It can operate a remote indicator, or will control pumps or other equipment through an interlock and relays. A pressure differential of less than ½ psi displaces the magnet equipped piston which then actuates the hermetically sealed switch. The flow switch can be set to operate in any position and at a preset flow rate. • **Gems Co.**, Sheppard Lane, Farmington, Conn.

For more details circle **NED-665 B1** on enclosed inquiry slip

TABLETTING PRESS handles dry-blended powders



Dense, high quality tablets are produced from dry - blended powders with a minimum of air entrapment, laminating, and capping by this Force-Flo die feeder on rotary tabletting presses. Attachment will also handle granular, semigranular, and sluggish-feeding materials at high speeds. It operates on compressed air and is readily installed on existing Stokes rotary presses. Prices range from $800 to $1500. • **F. J. Stokes Corp.**, 5500 Tabor Rd., Philadelphia 20, Pa.

For more details circle **NED-666 B1** on enclosed inquiry slip

One Man Does the Work of Three

with Amazing NEW

TROPICAL DRI-SPRAY WHITE

Get all the time and labor saving advantages of spray painting—with no disadvantages. No need for drop cloths or other protection for floors, desks, or machines when painting inside. Overspray dries as it falls and is dusted or swept away.

Tropical DRI-SPRAY WHITE is a product of the combined research facilities of Parker Rust Proof and Tropical Paint. It beautifies and gives heavy-duty protection to wood, metal, concrete or plaster surfaces indoors. Learn how you can save with Tropical DRI-SPRAY WHITE. Write for free information today!

PARKER RUST PROOF PRODUCTS

HEAVY-DUTY MAINTENANCE PAINTS SINCE 1883

TROPICAL PAINT COMPANY
1124-1260 W. 70th, Cleveland 2, Ohio
SUBSIDIARY OF PARKER RUST PROOF COMPANY

For more details circle **NED-667 B1** on enclosed inquiry slip

Thirteen stock sizes fit hook necks ranging from 9/16 through 3¼ in. Latches for larger necks available.

New Peerless SAFETY LATCH converts standard hooks to safety hooks in minutes

Make all hooks on your hoisting equipment safety hooks . . . convert them in minutes with simple tools and a Peerless Safety Latch. Made of sturdy corrosion-resistant materials and designed for long life.

The latch installed costs less than machining a conventional safety hook, can be applied to any make of hook on any type of hoist or sling, has finger lugs to protect hoist operator.

Write us for full particulars

THE HARRINGTON COMPANY
Plymouth Meeting 16, Pa.

Hand Chain Hoists (¼ to 60 tons) • Electric Hoists (170 to 4000 lb.)
Trolley Hoists (¼ to 12 tons) • I-Beam Trolleys (¼ to 20 tons)

For more details circle **NED-668 B1** on enclosed inquiry slip

This uncommon carrier . . . is rapidly becoming the *common* answer to materials handling problems

HERE'S HOW DOUGLAS AIRCRAFT USES CONVOY #T-31 TOTE BOXES TO SPEED COMPONENTS TO ASSEMBLY

We make many standard size tote boxes . . . nesting, stacking and vertical sided . . . but we'll custom-make any box your product or use calls for.

Special sizes and shapes are economically produced by our "Chem-Board" process of rigidizing hi-test corrugated board to remarkable strength.

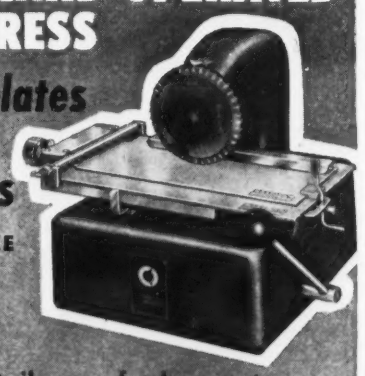
More and more famous name industries are using Convoy Tote Boxes. Try us.

CONVOY, INC.
CANTON 6, OHIO
P. O. Station B, Box 216-N
GReenwood 7-4569

For more details circle **NED-669 B1** on enclosed inquiry slip

Automark®

HAND OPERATED DETAIL PRESS for Nameplates and Small Parts



CHARACTER SIZE 1/16" to 1/4"

NEW

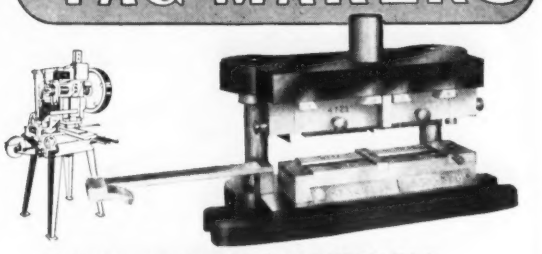
Top Quality detail press for low cost name plate and small part stamping. Features automatic spacing of work, delivers up to 2 tons pressure. Marks hard materials like stainless steel.

DEFIANCE MACHINE & TOOL COMPANY
1920 S. VANDEVENTER Dept. QD ST. LOUIS 10, MO.

For more details circle **NED-670 B1** on enclosed inquiry slip

GTS STAMPED OR EMBOSSED

·TAG MAKERS



MAKES COMPLETE (MARKED) TAG EACH PRESS STROKE

1. MARKS
2. PIERCES
3. SHEARS STRIP STOCK

GTS Stamped or Embossed Tag Makers are built to your tag requirements, with these features: Quick-setting, interchangeable steel type . . simply dropped into recesses of drawer style chase. Any character size you want. Built to run any amount, whenever needed. GTS design and quality, experience proved.

COMPLETE DETAILS SENT TO YOU UPON REQUEST

Phone: EAstgate 7-0300

GEO. T. SCHMIDT, INC.

1800 W. Belle Plaine, Chicago 13, Ill.

IF IT'S WORTH MAKING, IT'S WORTH MARKING

For more details circle NED-671 B1 on enclosed inquiry slip

NEW SNAP GAGE

RECTANGULAR, FLAT ANVILS (T. C.)

New Backstop Design
Four Sizes cover 0" - 4"
.0001" or .0005" grads. Range .060"

For descriptive Bulletin, write
FEDERAL PRODUCTS CORPORATION
1172 Eddy Street, Providence 1, R. I.

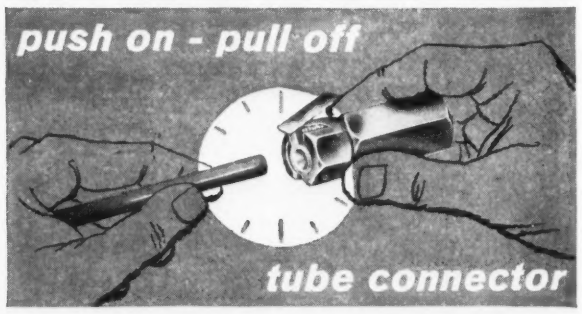
Ask FEDERAL First

FOR RECOMMENDATIONS IN MODERN GAGES . . .

Dial Indicating, Air, Electric, or Electronic—for Inspecting, Measuring, Sorting, or Automation Gaging

For more details circle NED-672 B1 on enclosed inquiry slip

AUTOMATIC LOCKING



Instantly connects pressure and vacuum lines to straight end tubing

Simply push the Connector over end of tubing and press to "stop" position. This AUTOMATICALLY locks tubing into place for a leak-proof seal. To unlock, press Thumb Pad and pull Connector off. For any pressure to 1000 psi; vacuum up to 25 microns. Rugged, simple, fool-proof, it saves time and labor. One end tapped for inlet connection. Stock sizes for 1/8" to 1½" OD tubing. Other sizes to order. Write for Catalog and prices.

for AIR WATER, STEAM, FREON, etc.

Expanding Seal Test Plugs and filling Connectors.

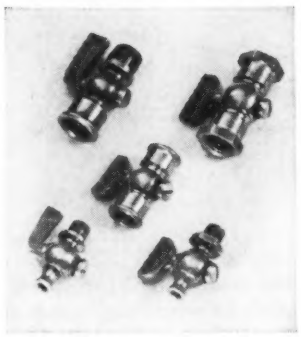
"Quick-Seal" Self Sealing Test Plug. Uses test pressure to insure leak-proof seal. Capacities to 500 psi.

"Quick-Seal" Self Sealing Filling Connector—adapts and seals air or liquid pressure lines to openings.

mp MECHANICAL PRODUCTS CORPORATION
1724 West Hubbard Street, Chicago 22, Illinois

For more details circle NED-673 B1 on enclosed inquiry slip

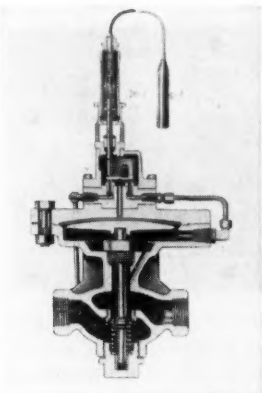
AIR & PET COCKS
for up to 250 psi static pressure



Machined, ground, and tested air and pet cocks are made from commercial brass for up to 50-psi, and from bronze for up to 250-psi static pressure service. All models are available in 1/8, 1/4, 3/8, and 1/2 in. sizes. Cocks are assembled with stainless steel tension springs to insure reliable service and long life. • **Swift Lubricator Co.**, 714 Lake St., Elmira, N. Y.

For more details circle NED-674 B1 on enclosed inquiry slip

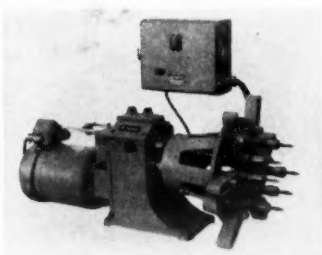
TEMPERATURE REGULATORS
for heating and cooling applications



Temperature variations are sensed by the liquid-filled thermo - element of Leslie-Eventemp temperature regulators which is interchangeable when the unit is in operation. Various thermo-elements, spans, and bulb materials are available. The single-seated, diaphragm-actuated, self-contained units cannot clog, bind, or seize. Applications include storage heaters and coolers, process heaters and coolers, cookers, ovens, and lubricating oil storage heaters. Units are offered with cast iron or bronze bodies, screwed or flanged ends, in sizes from 1/2 to 4 in. Inlet pressure rating is up to 175 psi and temperature rating is to 500° F. • **Leslie Co.**, 129 Delafield Ave., Lyndhurst, N. J.

For more details circle NED-675 B1 on enclosed inquiry slip

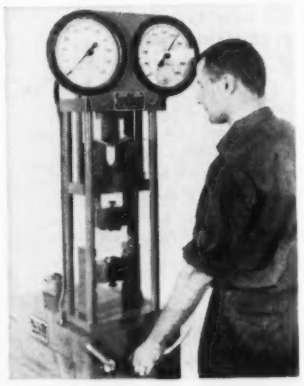
MULTIPLE TAPPING MACHINE
adjustable unit has six 3/8-in. taps



Six spindles of the Anoka multiple tapping machine are adjustable to any pattern within a maximum bolt circle of 7½ in. and a minimum center distance of 1¼ in. Capable of operating in any position, it has a capacity of six 3/8-in. N.C. taps in free-cutting steel. It can operate singly, in multiples from different sides, or in clusters with other machines. A single built-in switch permits synchronization with other Anoka units, index tables, or other equipment. Adaptors are available for mounting on drill press columns. Powered by an enclosed 2-hp motor, the tapper has a maximum stroke of 3 in. and a minimum of 5/8 in. One set of six collets is furnished. Price is $1485. • **Columbia Tool & Die Works**, 716 39th Ave. N.E., Minneapolis 21, Minn.

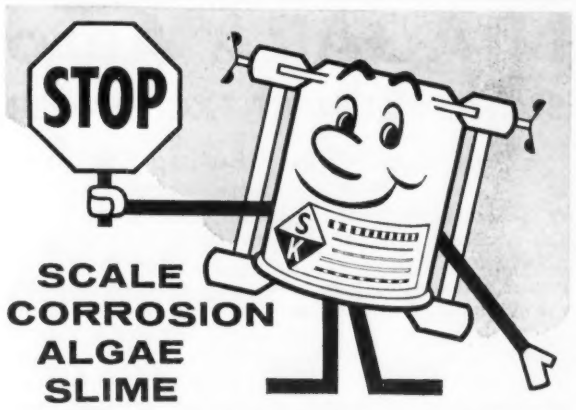
For more details circle NED-676 B1 on enclosed inquiry slip

TENSILE TESTER
also makes compression, bend tests



Capacity of 10,000 lb in two ranges is built into the Model TE-10-AS testing machine for tensile, compression, and guided bend tests. Motor and hydraulic power unit are located in the base, and controls are on the front. Flat butt welded samples are bent into U-shapes at the welds in the compression testing area of the machine, using interchangeable fixtures. Tensile testing inserts hold specimens up to 1/2 in. thick by 1½ in. wide, or with 3/4-in. diameter, and up to 8 in. long. Guided bend fixture is replaced by a pair of hardened compression plates for compression testing in a 9½ x 8-in. space between vertical pulling rods. • **Steel City Testing Machines Inc.**, 8817 Lyndon Ave., Detroit 38, Mich.

For more details circle NED-677 B1 on enclosed inquiry slip



SCALE
CORROSION
ALGAE
SLIME

with S-K ASSURED PREVENTIVE MAINTENANCE

Where scale, corrosion, algae and slime are day-to-day problems . . . with Stiles-Karlsonite products for *assured preventive maintenance* . . . you'll increase the overall efficiency of all your equipment . . . reducing operating costs.

Through Karlsonite—a low cost efficient water conditioner—elements in water that prove harmful and damaging to equipment are suspended and inactivated. You get crystal clear . . . non-corrosive . . . non-clogging . . . non-precipitating water . . . *always* at lowest cost!

Write today for new 24-page brochure . . . with the full story.

STILES-KARLSONITE CORPORATION
DEPT. SKC WAUKEGAN, ILLINOIS

For more details circle NED-678 B1 on enclosed inquiry slip

NEW SUNNEN CYLINDER HONES

PERMIT "stone feed-out" without interrupting honing operations

Available for 2¾" to 28" bore diameters and for any practical bore length with interchangeable drive shaft extensions.

THE IDEAL HONING TOOL FOR...

- Cylinders and long bores
- Bores in large, bulky parts
- Small lot or odd lot production
- Maintenance or repair of equipment

STONE FEED-OUT WHEEL...

is conveniently located so operator can make adjustments quickly. Stone cutting pressure can be maintained or increased at anytime during honing operations . . . without interrupting stroke or rotation, regardless of bore length.

CHECK THESE BENEFITS...

- Eliminates time lost in stopping to make feed-out adjustments
- Removes stock faster in any material
- Produces geometrically accurate bores within .0005"
- Generates any desired surface finish
- Does not require costly set-up time
- Powered by portable drill, drill press, air motor, lathe, etc.
- Can be used vertically, horizontally or at any angle

Ask for free bulletin 9383

SUNNEN HONING
SUNNEN PRODUCTS COMPANY

7933 Manchester Ave. • St. Louis 17, Mo. • Canadian Factory: Chatham, Ont.

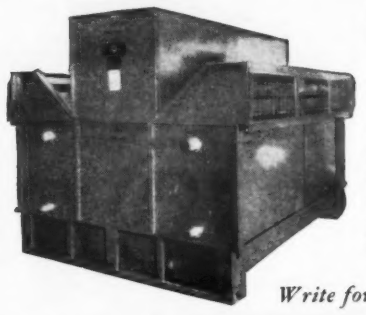
For more details circle NED-679 B1 on enclosed inquiry slip

NIAGARA Aero

SECTIONAL HEAT EXCHANGER

A Self-Contained Cooling System

● Niagara *Aero* Heat Exchanger offers a completely self-contained system independent of any considerable water supply, replacing both shell-and-tube cooler and cooling tower. Water consumption is only the evaporation and the small amount passed as blowdown to prevent hardness build up. Net saving is 95% of water used in cooling from external sources. You solve the problem of water supply and disposal; you save much additional expense and equipment in water handling, piping, pumping.



Casing panels are removable with full access to all parts and interior piping for easy inspection. Sections are shipped as flat panels with saving in freight charges.

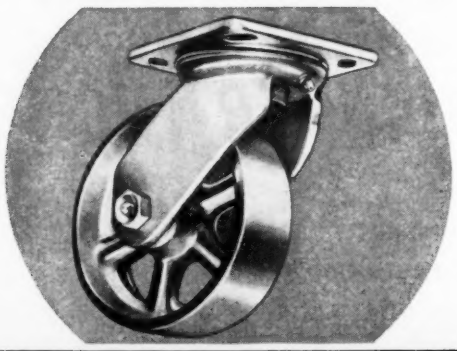
Write for Bulletin No. 132

NIAGARA BLOWER COMPANY

Dept. ED-2, 405 Lexington Ave., New York 17, N.Y.

▲ For more details circle **NED-680 B1** on enclosed inquiry slip ▲

3 WAYS BETTER



ALBION'S NEW SERIES 16 CASTERS

Another completely new . . . completely practical Albion industrial caster series developed to serve a broader variety of applications. Conservatively rated as **medium duty** casters, yet constructed for longer, better . . . heavy duty, maintenance-free service. They're three ways better, and here's why:

1. MORE CAPACITY

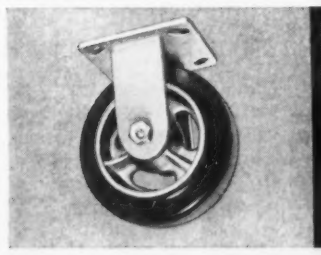
The new Series 16 Casters offer Albion's finest, most dependable construction advantages such as "cold-formed" steel yoke base and top plate with heat-treated raceways for smoother, lasting maneuverability under greater capacity loadings.

2. MORE WEARABILITY

Albion's Series 16 Casters are available in 9 different high capacity or floor protective wheel types in diameters of 3¼" to 8" with a capacity range of 140 to 900 lbs. per wheel. Sound engineering, quality materials and craftsmanship plus Albion's many outstanding construction features are combined to afford a caster that will last and last and last.

3. LESS COST

Although built to Albion's exacting quality standards, the Series 16 cost you far less than most ordinary casters of the same size or capacity ratings. And . . . they are available—all models—right now!



RIGID CASTERS
Albion's Series 16 Casters are available as matching rigid models in 9 wheel types—3¼" to 8" wheel diameters.

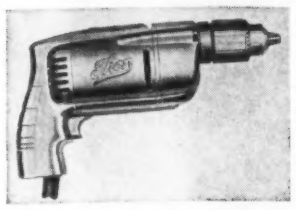
Remember . . . if you want longer, better service plus caster versatility at a savings you can count—be sure to get all the facts and figures from Albion.

Write—wire or phone today for your copy of the new illustrated specification sheets on Albion Series 16 Casters

ALBION INDUSTRIES, INC.
Albion, Michigan

▲ For more details circle **NED-681 B1** on enclosed inquiry slip ▲

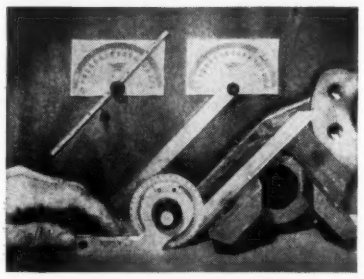
3/8-IN. ELECTRIC DRILL
features high stall torque



Masonry drilling with carbide bits and large diameter wood boring with hole saws and fly-cutter bits are possible with the SilverLine U16FDH portable electric drill by virtue of its high stall torque and 850-rpm free speed. The 3/8-in. capacity tool weighs only 4¾ lb. It is suited for drilling in stainless steel and other tough alloys and for wire brush work in preparing rusted and scaled surfaces for welding and painting. ● **Thor Power Tool Co.**, 175 N. State St., Aurora, Ill.

▲ For more details circle **NED-682 B1** on enclosed inquiry slip ▲

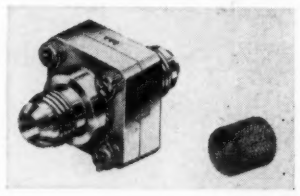
PROTRACTORS & GAGES
glareless finish resists corrosion



Series of Starrett protractors now features no-glare Satin-Chrome finish for easier reading and high resistance to corrosion and wear. No. C359 universal bevel protractor is made with 7, 12, or 7 and 12-in. blades, and has the Satin-Chrome finish on the protractor dial and vernier. Other surfaces are bright chrome, except the blades and acute angle attachment. With its ultra-fine adjustment, it measures angles as close as 5 min or 1/12 degree. No. C364 protractor is similar, but without the fine adjustment feature. Satin-Chrome finish is also available on the protractor head and blade of the No. C183 steel protractor and No. C493B protractor-depth gage. ● **L. S. Starrett Co.**, Athol, Mass.

▲ For more details circle **NED-683 B1** on enclosed inquiry slip ▲

FLUID LINE FILTER
for up to 2250-psi gas service



Compact, miniature filter assembly for in-line applications wherever caustic or corrosive liquids or gases are handled will operate at gas pressures to 2250 psi and temperatures from −350 to 500° F. Unit is 1⅛ in. square and about 2 in. long over-all, and is offered in ¼ and ⅜-in. tube sizes. It is made of stainless steel with a Teflon washer between the two body halves, and has a cup shaped woven wire mesh filter with 1.2 sq in. of surface. Other sizes are available on request. ● **Dumont Engineering Corp.**, 1401 Freeman Ave., Long Beach, Calif.

▲ For more details circle **NED-684 B1** on enclosed inquiry slip ▲

2567

COMPRESSED AIR SEPARATOR • FILTER • TRAP
MURPHY TRIUMPH AA

Installed near point of use, it separates and ejects moisture automatically, then filters out all scale, rust or other impurities and delivers air clean and dry; **of instrument quality.**

Write now for **FREE** Data Sheet No. 2567.

JAMCO

JAS. A. MURPHY & CO., INC.
1419 EAST HIGH STREET, HAMILTON, OHIO

▲ For more details circle **NED-686 B1** on enclosed inquiry slip ▲

New micrometer can measure internal lands and grooves to ± .0005" ...on the machine!

Now, for the first time, you can measure internal lands and grooves, O-ring widths, retaining ring grooves, keyways, and cylinder grooves simply *and accurately*. The new Multi-Mike* internal groove micrometer operates just like any conventional micrometer. Easy-to-read Starrett micrometer head has graduations in thousandths of an inch. Multi-Mike can reach into, and measure, bores as deep as 5¾"; the two standard models fit holes down to ½" or ¼" diameters. The Multi-Mike measures groove widths from .050" to 1.050" and lands from 0 to 1.000". And this amazing new internal micrometer can do all this while the piece is still on the machine!

Multi-Mike produces higher quality work with lower cost set-ups and fewer rejections . . . gives you greatly reduced inspection and quality control costs. Write today for free literature.

*TRADEMARK; PATENT PENDING

Multi-Mike Micrometer is another invention marketed by:

NAVAN — INVENTION MARKETING NATIONAL SALES

NAVAN PRODUCTS INC.
Subsidiary of
North American Aviation, Inc.
900/P North Sepulveda
El Segundo, California

▲ For more details circle **NED-687 B1** on enclosed inquiry slip ▲

THE NEW MILLER ALL-IN-ONE SPOT WELDER for ALL NUMBER ONE WELDS

LECTRO SPOT

Built-in Timer Turns the Trick

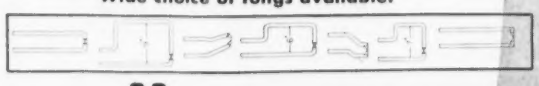
Sheet metal shops ready for new speed, economy and completely uniform spot welds will want the new Lectro Spot. Here's why:

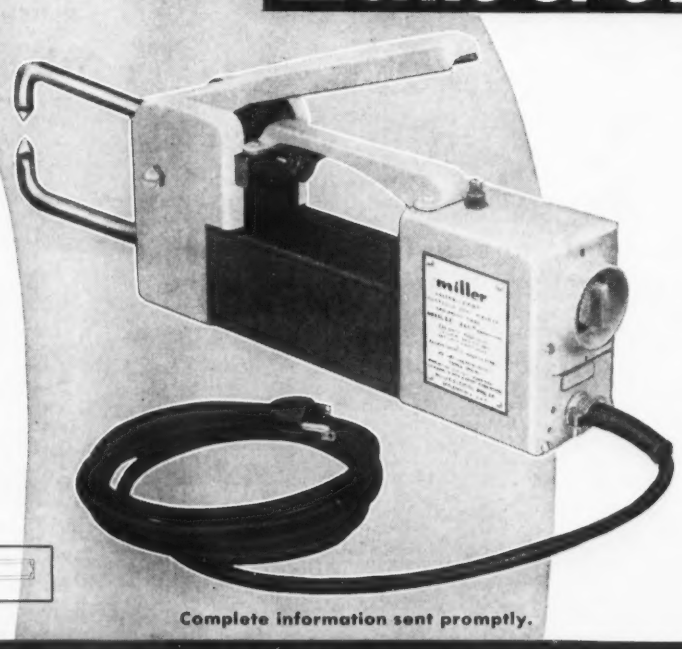
Operator depresses lever and,
1 — 2 — 3:
Tongs grip work at pre-set pressure;
Starter switch is actuated;
Weld sequence starts and stops automatically;
Result: EVERY WELD IS IDENTICAL!

Pressure adjustment and electronic timer controls instantly accessible.

Three models in 115 or 230 volts weld mild steel of 1/8" to 3/16" combined thickness; 1.5 KVA weighs 29 lbs., 2.5 KVA weighs 39 lbs.

Wide choice of tongs available.





Complete information sent promptly.

miller ELECTRIC MANUFACTURING COMPANY, INC. Appleton • Wisconsin

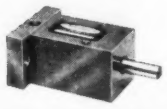
Distributed in Canada by Canadian Liquid Air Co., Ltd., Montreal

▲ For more details circle **NED-685 B1** on enclosed inquiry slip ▲

Modernair

CLAMP Type Air CYLINDERS

-a size and type to meet your needs



SERIES 800 — 1⅛" bore

Rectangular body, flat base for easy mounting, vertically or horizontally.

Model 800-1 (1" stroke) $8.50
Model 800-2 (2" stroke) $9.75

SERIES 900—2", 3" and 4" bore

Cast aluminum body with both horizontal and vertical mounting pads; slotted holes for easy positioning. Available in 1" and 2" stroke lengths.

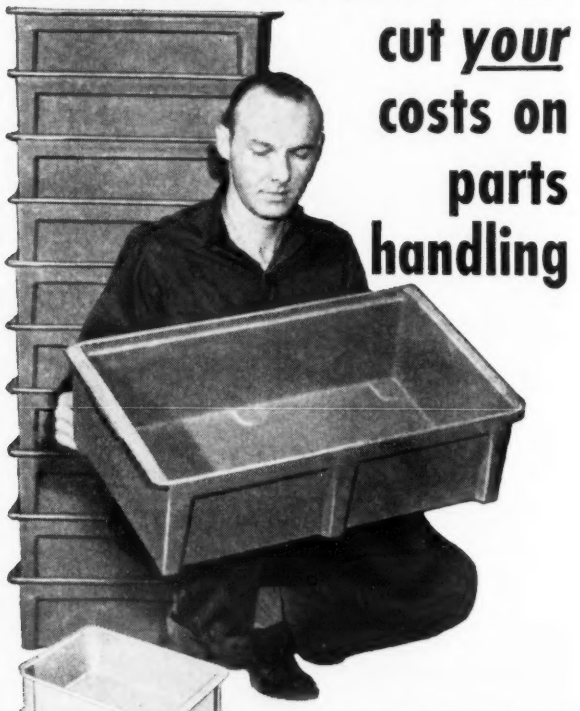
Model	Bore	Stroke	Price
921	2"	1"	$16.00
922	2"	2"	19.00
931	3"	1"	23.50
932	3"	2"	26.50
941	4"	1"	47.50
942	4"	2"	51.50

Modernair offers the industry's most complete line of air cylinders and valves for shop and plant use. Write today for free catalog, price list.

Modernair CORPORATION
Industrial Products Division Dept. 76
400 Preda Street, San Leandro, California
55

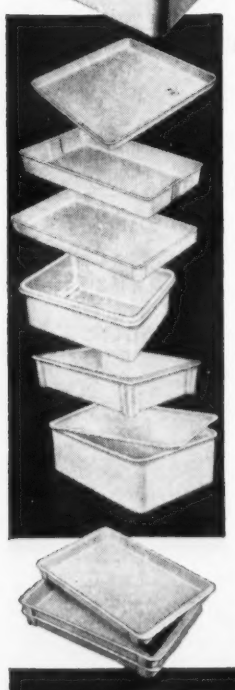
For more details circle NED-688 B1 on enclosed inquiry slip

How TOTELINE can cut your costs on parts handling



Improve your handling of small parts and make substantial economies by switching to Toteline tote boxes or trays for handling small parts. Here's how:

- Replace wooden, steel, enameled or fiberboard boxes with Toteline products — made of reinforced molded fiber glass which can't rust, leak, splinter, crack or tear. It's stronger than steel, pound for pound.
- You get a box for handling or storing parts which is light for easy lifting, stacks easily without toppling.
- Boxes and trays can be cleaned by dipping in hot water. There are no corners or crannies for dirt to lodge.
- Toteline trays and boxes have wire reinforced edges for more strength.
- You eliminate maintenance expense. No re-painting, no chipping or cracking.
- Constant tare weight.



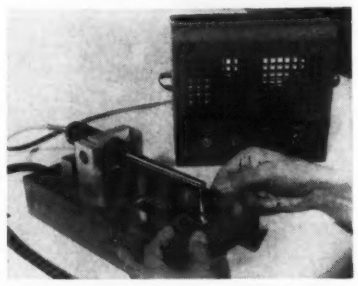
Also available are Toteline fabricated boxes made to your exact specifications in large or small quantities. These custom made boxes have panels of molded fiber glass, up to ⅜ inch thick. Top and bottom frames and corner angles are of strong galvanized steel or aluminum. Casters, hand holes, runners, lids, compartments . . . you name it, we'll make it.

by TOTELINE

MOLDED FIBER GLASS TRAY CO., LINESVILLE, PA.
ONE OF THE MOLDED FIBER GLASS COMPANIES
World's Largest Producer of Reinforced Plastic Trays and Tote Boxes

For more details circle NED-689 B1 on enclosed inquiry slip

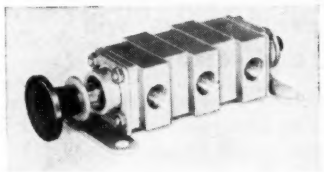
ULTRASONIC WELDER
joins without heat or deformation



Foil in thicknesses from 0.00025 to 0.002 in. can be spot welded with the 10-w Glennite ultrasonic welder. High frequency vibrations weld without heat and without materially deforming the metal. Welds are as strong or stronger than the parent metal. Hermetic seals are also made. Applications include joining gold leads to gold plated semiconductor material, and gold, silver, and aluminum leads to germanium, silicon, and ferrite. Palladium, copper, quartz, tellurides, and vacuum coated polyester film materials may also be joined. Accessories include a microsecond timer and a binocular microscope. • **Gulton Industries, Inc.**, 212 Durham Ave., Metuchen, N. J.

For more details circle NED-690 B1 on enclosed inquiry slip

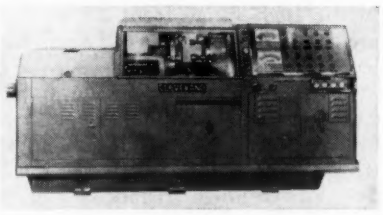
CONTROL VALVES
for air, oil, or vacuum service



Manual and mechanical operators for these ¼-in. NPT, two-position, balanced spool, control valves range from knob through lever, clevis, roller cam, over-riding roller cam, foot pedal, treadle, and air types. Valves are designed for pressures from 29 in. Hg to 250 psi for control of air, oil, or vacuum. Valve segment is key to unit's modular design which permits thousands of variations in style, utilizing less than 50 standard interchangeable parts. Valves are available in normally-closed or normally-open two-way, three-way, and four-way styles. • **Hoffman Valves, Inc.**, 2360 W. Dorothy Lane, Dayton 39, Ohio.

For more details circle NED-691 B1 on enclosed inquiry slip

AUTOMATIC SCREW MACHINE
1 ⅝-in. single spindle bar type



Programming panel on the Model AB 1⅝-in. single spindle automatic screw machine contains every control necessary for setting spindle speeds and turret feeds. Operator turns one knob for each of the five turret positions until the desired speeds and feeds are indicated by pointers on monitor dials. Infinitely variable speed range is from 40 to 3100 rpm. Ten spindle speeds and 10 turret tool feeds, all infinitely variable, may be adjusted while tools are cutting. Standard cams control the forward and return motions of the turret, cross slides, and independent cut-off attachment. Adjustment of length of bar stock feed is by hand crank. • **Cleveland Automatic Machine Co.**, 4932 Beech St., Cincinnati 12, Ohio.

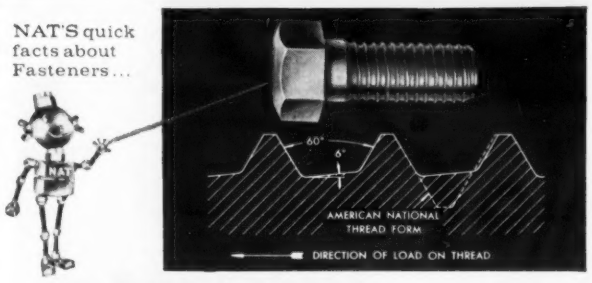
For more details circle NED-692 B1 on enclosed inquiry slip

MATERIALS HANDLING TRUCK
has hopper and platform bodies

Operated by a driver walking behind it, the Model WN-12 Scoot-Crete materials handling truck has a carrying capacity of 1 ton and an over-all length of 72 in. The three-wheeled vehicle is steered by a handlebar which turns the rear wheel. Brakes are applied by a squeeze type lever on the right handlebar, and speed and direction are controlled by a small lever on the left handlebar. Powered by a 9.2 hp Wisconsin engine through an automatic centrifugal clutch, the truck has two speeds forward plus reverse. Drive wheels under the load give maximum traction. Truck is available with a 12-cu ft hopper type dump body, or with an interchangeable platform body. Starting may be electrical or manual. Price is under $1000. • **Getman Brothers**, South Haven, Mich.

For more details circle NED-693 B1 on enclosed inquiry slip

NAT'S quick facts about Fasteners...



Can **any** fastener actually **become tighter** in service?

WELL, HARDLY. NOT JUST *ANY* FASTENER...

LOK-THRED® bolts, studs and screws do . . . require as much as 70% more torque for removal than for tightening.

That 6° converging angle of the extra-wide root is the reason. It re-forms the metal of the receiving thread to squeeze out every void . . . becomes, in effect, a tapered wedge that pulls tighter under load. Self-sealing and re-usable, too.

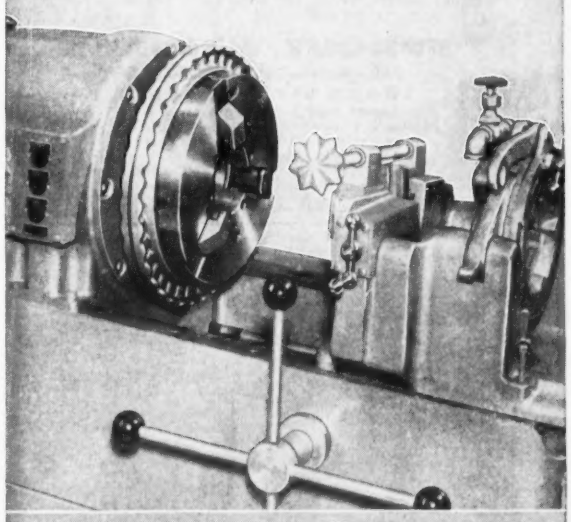
Let us show you how LOK-THRED provides better holding power. Ask for the LOK-THRED booklet.

The National Screw & Mfg. Company
Cleveland 4, Ohio
Los Angeles 22, Calif.

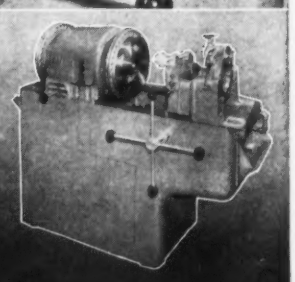
For more details circle NED-694 B1 on enclosed inquiry slip

THREADS 1 TO 4-INCH PIPE WITH... NO DIE CHANGE!

BEAVER SPEED KING

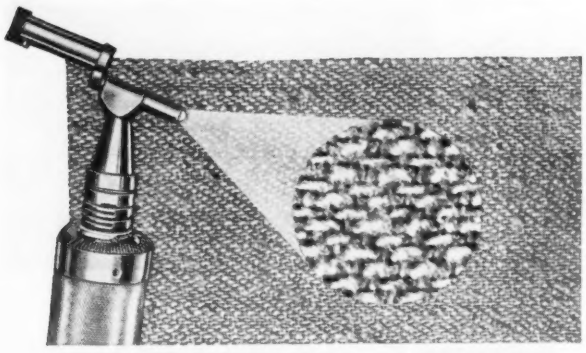


Only BEAVER HAS IT!
Only 980 lbs.!

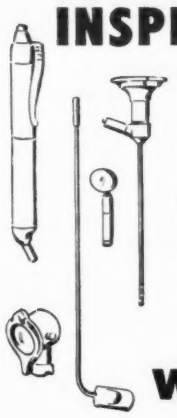


BEAVER
Send for complete catalog and name of nearest distributor
PIPE TOOLS, INC.
DANA AVE.
WARREN, OHIO

For more details circle NED-695 B1 on enclosed inquiry slip



INSPECTION LIGHTS



New free catalog now ready

New catalog shows 12 basic types for surface and interior inspection. Includes prefocused or adjustable types, lights with magnifying lenses, mirrors for angle vision, miniature borescopes, battery handles, transformers, etc. Separate listing of 14 types of miniature lamps. Write for your copy today.

WELCH ALLYN, INC.
10 Jordan Rd., Skaneateles Falls, N. Y.

WELCH ALLYN LIGHTS THE WAY

For more details circle **NED-696 B1** on enclosed inquiry slip

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For the intimate MIXING of floury, powdery, granular and fibrous materials

Write for Bulletin 128.

SPROUT-WALDRON
HORIZONTAL BATCH MIXERS

This equipment loads, blends, and discharges rapidly . . . is sanitary, dustless. Handles dry and damp materials . . . and liquids can be added. Ideal for the rapid, intimate mixing of small percentages of critical ingredients with a large bulk of basic material. Sizes from 1 cu. ft. to over 1,000 cu. ft. Construction materials and discharge gates to meet all applications. Available with heating, drying, and cooling attachments. Can be "adaptioneered" for special needs.

Sprout-Waldron also offers a complete line of vertical mixers. Write for details.

IN/496

SPROUT-WALDRON
— Manufacturing Engineers Since 1866 —
LOGAN STREET • MUNCY, PA.
EQUIPMENT FOR SIZE REDUCTION • MIXING & BLENDING • BULK MATERIALS HANDLING • PELLETING & CUBING • PRODUCT CLASSIFICATION

For more details circle **NED-697 B1** on enclosed inquiry slip

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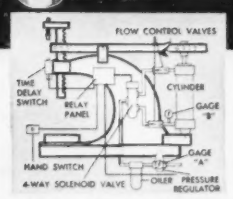
PNEU-TROL

AUTOMATION TIME DELAY SWITCH

FOR CONTROLLED TIME DWELL OF AIR OR HYDRAULIC CYLINDERS



Arbor press converted to high production power press, using double end cylinder, Time Delay Switch, Flow Control Valves, and related equipment, Flow Valves permit independent ram speed adjustment in both directions. Differential pressure between "A" and "B" gages caused by throttling effect of Flow Control Valve creates time interval in working pressure build-up, which is compensated for by Time Delay Switch setting. This insures consistently accurate working pressure on the ram.

- **Holds dwell accurately to fraction of second**
- **Automatically re-sets**
- **Designed for millions of actuations**

Pneu-Trol Time Delay Switch will hold any cylinder controlled motion or operation at a positive stop on either end of the stroke for ¼ to 60 seconds in 20 to 1 ratios. Simple, easy to adjust. Automatically re-sets after each actuation. Positive, controlled time dwell permits wider use of air or hydraulic power in automatic operations, increases accuracy of work by insuring split-second accuracy of time dwell. Available with many thrust linkages for left and right, down, up, or horizontal thrust. Write for Special Bulletin TDS-59

AUTOMATION AUTO-PONENTS INC. COMPONENTS
2929 GRANT STREET
BELLWOOD (Chicago Suburb) ILLINOIS

For more details circle **NED-698 B1** on enclosed inquiry slip

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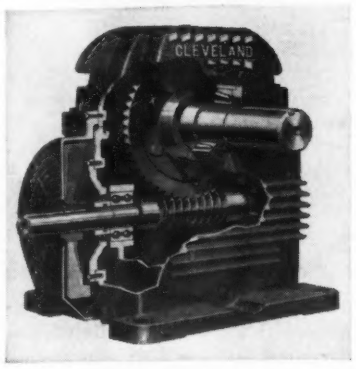
SPEED REDUCERS
fractional to 175-hp capacities



Lightweight radial fan of plastic or aluminum is incorporated in this line of worm gear speed reducers to give them horsepower capacities up to 80 per cent higher than those of conventional reducers of the same type. Space savings of 50 per cent or more are also possible with the new design. The fan-cooled units are available in nine sizes with 3 to 12-in. center distances, ratios from 4 1/7:1 to 95:1, and fractional to 175 hp ratings. Equally effective in either direction of rotation, the fan is mounted on the input side of the worm shaft to cover the finned outer wall of the reducer. • **Eaton Mfg. Co.**, Cleveland Worm & Gear Div., 3300 E. 80th St., Cleveland 4, Ohio.

For more details circle **NED-699 B1** on enclosed inquiry slip

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RIDING-TYPE TRACTOR
unit has two speed ranges, will mow, till, rake, and remove snow

Versa-Gear 12-speed selection system of the Ride-a-matic tractor enables unit to mow grass, till, seed, fertilize, rake, or remove snow using appropriate attach-

ments. The lever-operated system provides six speeds in the lower range from ⅝ to 2.1 mph and six speeds in the high range from 2.1 to 6 mph. Attachments are controlled from driver's seat with two easily-reached levers.

Power attachments operate at full engine speed, regardless of ground speed. Newest attachments are the Robbie Rake and the pictured 32-in. Sno-Caster (left) which scoops up snow and casts it 3 to 15 ft in either direction. Others include a reel mower designed for front mounting or three-gang trailing, a 38-in. center-mount rotary mower (shown mounted), a 22-in. rotary tiller, 42-in. grader blade, 42-in. rotary brush, and 7-cu ft dump cart. • **Food Machinery & Chemical Corp.**, Bolens Products Div., Port Washington, Wis.

For more details circle **NED-700 B1** on enclosed inquiry slip

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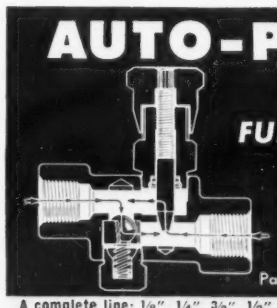
AUTO-PONENT®



HYDRAULIC FULL FLOW VALVES

Flow Control, Needle, Check, for HYDRAULIC Power

Model KF Flow Control Valve with Dial and Knob adjustment for direct reading and duplicating reference. Now available in Aluminum for 3000 psi.

Pat. #2,841,174

A complete line: ⅛", ¼", ⅜", ½", and ¾" female Dryseal Pipe Sizes in all models and types. Equivalent Aeronautical Tube Sizes on special order.

MINIMUM PRESSURE DROP AND POWER LOSS . . . Oversize ports and passages give maximum flow at minimum pressure drop, insure greater accuracy and response in hydraulic or large volume air cylinder control.

EASY FLOW ADJUSTMENTS under full pressure. Seal located at port to eliminate air or dirt traps. Gland structure equally effective on pressure or vacuum.

SENSITIVE, CHATTERLESS BALL CHECK . . . Patented design insures rapid ball movement to open or close at low differentials.

FORGED BODIES permit higher pressures with wide safety margins. Aluminum—3000 psi; Steel and Stainless Steel—5,000 psi. Pressure ratings based on better than 5 to 1 safety factor. All internal parts are Stainless. Write for illustrated catalog.

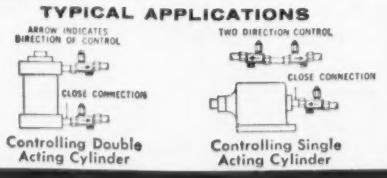
Model F Standard Flow Control Valve or Model N Needle Valve

Model KF Knob and Dial Flow Control Valve or Model KN Needle Valve.

Model FF Knob and Dial Flow Control Valve or Model FN Needle Valve for panel mounting.

Model C Check Valve for In-Line Mounting.

TYPICAL APPLICATIONS



Controlling Double Acting Cylinder — Controlling Single Acting Cylinder

AUTOMATION AUTO-PONENTS INC. COMPONENTS
2929 GRANT STREET
BELLWOOD (Chicago Suburb) ILLINOIS

For more details circle **NED-701 B1** on enclosed inquiry slip

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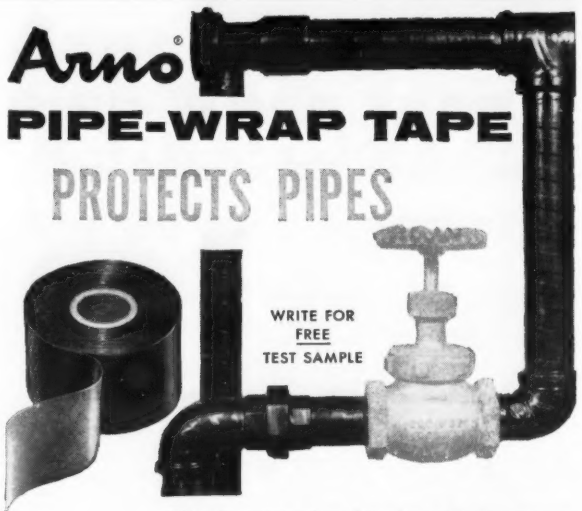
Arno® PIPE-WRAP TAPE

PROTECTS PIPES



Here's protection by the roll for above-ground and buried pipe. Arno Pipe-Wrap is made of stretchy, inert polyethylene with a pressure-sensitive adhesive. Provides a tough, continuous barrier to protect pipes against rust, acid and alkalis. Reduces replacements . . . fast, easy to apply. Send for FREE test sample.

Manufacturers Agents Wanted For Some Selected Areas

Arno® ADHESIVE TAPES, INC.
Dr. Scholl's Adhesive Tape Division
5216 Ohio Street, Michigan City, Indiana

For more details circle **NED-702 B1** on enclosed inquiry slip

---

NOW . . . ONE SOURCE FOR IMMEDIATE DELIVERY ON ALL YOUR Vari-Speed Belt NEEDS

. . from

LOVEJOY

Wide range of sizes from ⅞" to 3" top width
Nominal overall lengths from 26.4" to 170"

- **Fabricated from fiber-reinforced synthetic rubber**
- **Impervious to oil and heat**
- **Remain "live" under static conditions**
- **Stretch resistant properties of reinforcing cords assure length stability**
- **Constructed to withstand intense squeezing action of pulley sheave walls**

Get your copy of industry's most handy guide to the right variable speed belt for every application. ***Ask for Catalog No. 61-C.***

Lovejoy
First Name in Power Transmission Equipment

LOVEJOY FLEXIBLE COUPLING CO.
4803 West Lake St. • Chicago 44, Illinois

For more details circle **NED-703 B1** on enclosed inquiry slip

---

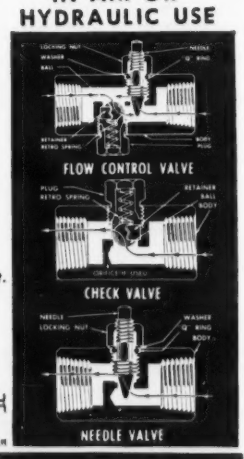
Get Easier, More Accurate Cylinder Speed Control

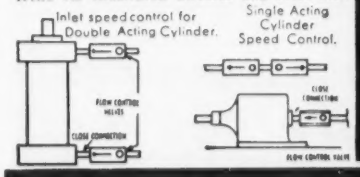
2,000 (brass or aluminum) and 5,000 (steel) p.s.i.

with Pneu-Trol® VALVES IN AIR OR HYDRAULIC USE

Pneu-Trol Valves combine in a short, compact body, a tapered fine thread needle for extremely accurate air or oil flow control and a floating retro ball check, which permits full flow in the opposite direction. Retro ball floats in most sensitive position to seat, requiring only a slight differential pressure to fully open or close it. Check Valve and Needle Valve incorporate single function features of Flow Control Valve. All valves available in 5 female pipe sizes — ⅛" to ¾". Valve bodies are made from brass, aluminum, steel or stainless steel. Attractive Prices — Immediate Delivery.

Write for Illustrated Circular and Price List.





AUTOMATION AUTO-PONENTS INC. COMPONENTS
2929 GRANT STREET
BELLWOOD (Chicago Suburb) ILLINOIS

For more details circle **NED-704 B1** on enclosed inquiry slip

"TOPS" for CORROSIVE SERVICE

TYGON GASKETING

Tygon Plastic Gasketing is highly resistant to acids and alkalis. It is tough, resilient and non-aging; resists wear and abrasion. Cut your own from sheets, tubing or solid cord . . . or we will provide molded gaskets, grommets or seals to your specifications.

WRITE FOR BULLETIN G-520

Plastics and Synthetics Division

U. S. STONEWARE

AKRON 9, OHIO

214-E

For more details circle NED-705 B1 on enclosed inquiry slip

GPE Controls

WEB and STRIP GUIDES

Save TIME...MONEY...MATERIAL!

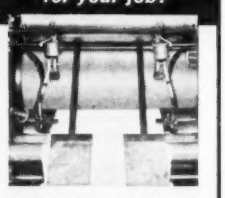
FREE CATALOG tells!

43 MODELS ...one just right for your job!

Send for NEW Catalog EG-84

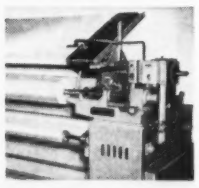
Photos and diagrams representing thousands of installations; complete details on world's broadest line of web and strip guides.

- Laminate without trim!
- Speed up presses while you keep accurate side register!
- Slit without side trim!
- High-speed textile tentering with minimum selvage.
- Track conveyor belts, abrasive belts, etc., up to 5,000 feet per minute.
- Winds 100-ton steel coils evenly to protect edges.
- Web edge position, porosity, opacity, or reflectance sensed by air or photoelectric heads.
- Non-clog air sensing head (patented) never touches web, works perfectly with linty, dusty, or abrasive webs.
- Hydraulic actuation for unlimited power and speed, high frequency response.
- Engineered by specialists in industrial automatic controls.



Medium-duty model with air sensing, positioning knives on rubber calender.

Photoelectric reflected light head following line on printed carton stock to eliminate slitting.



Light-duty unit with air sensing, applied to textile machinery.

GPE Controls, Inc.

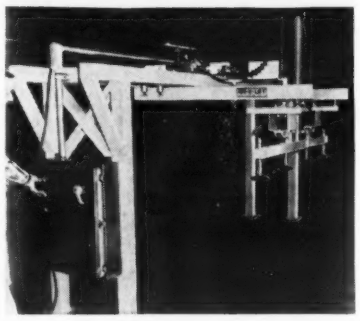
258 E. Ontario St., Chicago 11, Ill.

GPE Controls — A GENERAL PRECISION COMPANY — formerly Askania Regulator Company

A subsidiary of General Precision Equipment Corporation

For more details circle NED-706 B1 on enclosed inquiry slip

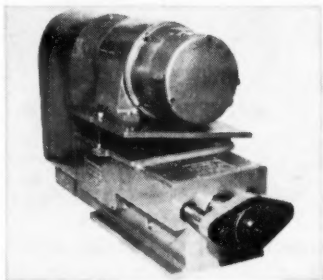
AUTOMATIC SHEET FEEDER
has lifting capacity of 500 lb



Built to lift and feed fiber sheets into pinch rolls, the Vac-U-Lift automatic vacuum sheet feeder may be adapted to any lifting-feeding operating involving relatively nonporous materials. Although maximum weight of the fiber sheets is 100 lb, total lifting capacity is 500 lb. Maximum sheet size of 96 x 140 in. can be handled. The self-contained unit incorporates wiring and power, control panel, air cylinder lift, traverse with automatic and instantaneous vacuum attachment and detachment, and a safety vacuum reserve system. Vacuum pad beam raises material into rolls, then releases it as material starts through the rolls, returning to start position to repeat the adjustable 6 to 10-sec cycle. • **Vac-U-Lift Co.**, Salem, Ill.

For more details circle NED-707 B1 on enclosed inquiry slip

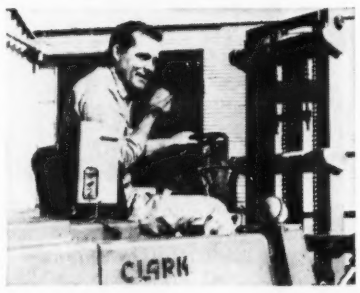
HEAVY DUTY TAPPING HEAD
equipped with motors up to 10 hp



Usable in any position and having a 6-in. maximum spindle travel, the TU-1400 heavy duty tapping unit can be used in multiple station arrangements on fixed and indexing tables. Built-in electric relays allow automatic or manual cycling. Each unit has its own control panel, oil reservoir tank, and lubricating pump. It is capable of 30 reversals per minute and may be supplied with motors up to 10 hp. All castings, including the motor housing, are aluminum alloy. • **Johnson Drill Head Co.**, 2401 20th St., Rockford, Ill.

For more details circle NED-708 B1 on enclosed inquiry slip

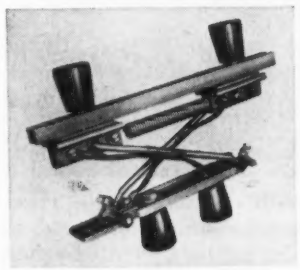
TWO-WAY RADIO SYSTEM
for mobile equipment use



Citizen's band industrial radio telephone consists of the RT-72A 115-v ac base unit and the RT-77A 6-v dc mobile unit. The low-cost two-way system is designed for indoor and outdoor dispatching of handling equipment, communications between equipment operators, and coordination of erection and hoisting operations. Features include crystal controlled tuning, 22-channel availability, "tone" calling signal, automatic squelch quieting, high-performance whip antenna, and selector switch for dual channel operation and automatic volume control. Any number of mobile units can be contacted from a base unit or another mobile unit. • **Radson Engineering Corp.**, Macon, Ill.

For more details circle NED-709 B1 on enclosed inquiry slip

CURRENT COLLECTOR SYSTEM
medium capacity unit for ac-dc use



Insulators, hangers, conductors, and collectors are supplied with the packaged C-Bar conductor system. It is ready for mounting on a building wall or structural support for medium duty applications. All types of alternating and direct current collection on main runway and cross travel for traveling cranes, material handling units, and machine tools are among uses. System is available in bronze, aluminum, or copper with continuous conductor ratings of 350, 450, and 550 amp. Collector ratings range from 50 to 250 amp. • **H. K. Porter Co.**, Delta-Star Electric Div., 2437 Fulton St., Chicago 12, Ill.

For more details circle NED-710 B1 on enclosed inquiry slip

Now-Specify VARFIL Sleeving and Tubing...

and get these 5 BIG Advantages

HIGHER DIELECTRIC RETENTION
GREATER FLEXIBILITY
MORE HEAT RESISTANCE
AVAILABLE IN COILS
CAN BE AFTER-TREATED

AVAILABLE IN FOLLOWING NEMA CLASSES
CLASS B-A-1 7000 VOLTS AVERAGE
CLASS B-B-1 4000 VOLTS AVERAGE
CLASS B-C-1 2500 VOLTS AVERAGE
CLASS B-C-2 1500 VOLTS AVERAGE

Even under the most severe operating conditions, Varfil Sleeving and Tubing retains its average dielectric strength. Twist it, tie it, bend it, wrap it, knot it. Remains just as pliable as when you started. Won't crack, peel or suffer dielectric loss. Heat Varfil 2000 hours at 110° C.—1,000 hours at 125° C.—and even for extensive periods at 150° C. It won't break down. Can be after-treated in baking and varnishing operations. Reacts better than other oleoresinous materials and synthetic coated tubings. Available in handy coils so you can cut the exact lengths you need . . . no waste. Standard colors. Wide range of sizes. Exceeds or meets all A.S.T.M. specifications.

Varflex CORPORATION Makers of Electrical Insulating Tubing and Sleeving

SEND TODAY FOR FREE SAMPLE FOLDER

VARFLEX Corporation, 510 W. Court St., Rome, N.Y.

For more details circle NED-711 B1 on enclosed inquiry slip

only Koncentrik® STAINLESS PIPE UNIONS give you a fully confined TEFLON SEAL

Patented construction provides double sealing action. Excellent for high pressure and high vacuum applications. Pressure ratings 2,000# to 6,000#. Screwed or socket weld ends, for pipe sizes to 2". Send for catalog today.

THE SPECIAL SCREW PRODUCTS COMPANY SSP

BEDFORD, OHIO

For more details circle NED-712 B1 on enclosed inquiry slip

COPPUS "Blue Ribbon" Ventilator-Exhausters are portable and easily adaptable . . . for exhausting welding fumes or foul air from enclosed vessels. Mail coupon below for facts.

COPPUS ENGINEERING CORP.
402 Park Avenue, Worcester 10, Mass.

- ☐ in tanks, tank cars
- ☐ in underground manholes
- ☐ for exhausting welding fumes
- ☐ on boiler repair jobs
- ☐ for general man cooling
- ☐ to stir up stagnant air wherever men are working or material is drying

Name.....
Company.....
Address.....
City.....

COPPUS BLOWERS

For more details circle NED-713 B1 on enclosed inquiry slip

modernize with

HydroLectric

This powerful electric tractor hauls one or more trailer units with speed, safety and ease of operation

Two driving wheels instead of one • Sealed alloy gears instead of chains • 100% more steering ease with two wheel drive • Power unit removal complete in 20 minutes

Features the exclusive DYNA-DUAL POWER UNIT. Power enough to pull loads of 6000 lbs. or more at low cost.

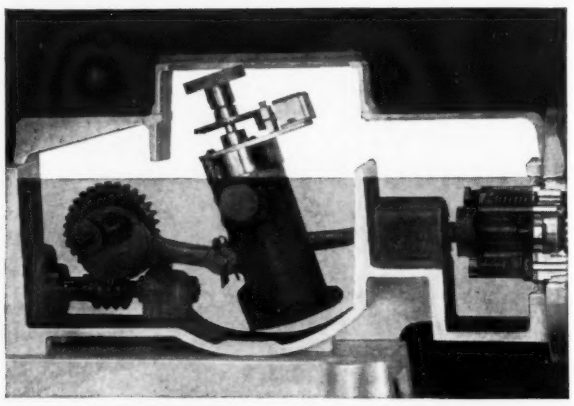
LIFT TRUCKS INC. W.W.W. STUEBING CINCINNATI

Write for Bulletin KTR

A TRUCK FOR EVERY PURPOSE AND MATERIAL

LIFT TRUCKS, INC.
CINCINNATI 14, OHIO

For more details circle NED-715 B1 on enclosed inquiry slip



This is why you never heard of a PULSAFEEDER wearing out!

Every moving part of every Lapp Pulsafeeder Metering Pump is completely submerged in oil. This total lubrication reduces friction to practically the theoretical minimum. And there's no possibility of corrosion from exposure to atmosphere.

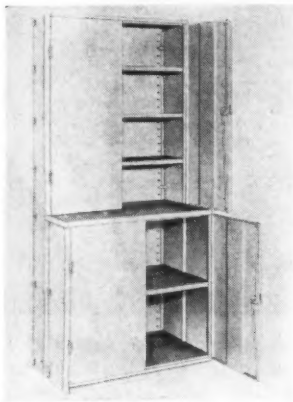
For year after year of *extra* service life, Lapp Pulsafeeders continue to give you the exclusive advantages for which you bought them. Advantages like complete freedom from leakage and contamination; precision metering, at flow rates from a few drops to 15.7 gallons per minute; pressures up to 7000 psig; choice of heads for safe handling of acids, abrasive slurries, radioactive fluids; manual or instrument controls. We've got a new catalog to help you fit the right model to your process.

***WRITE** for Catalog 59. Lapp Insulator Co., Inc., Process Equipment Division, 1814 Poplar Street, LeRoy, New York.*

Lapp

For more details circle NED-716 B1 on enclosed inquiry slip

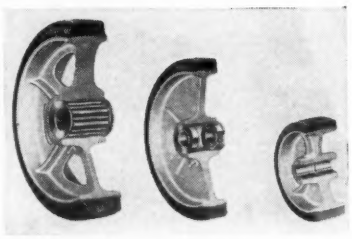
STEEL SHELVING
offered with lockable doors



Secure storage of tools, parts, costly materials, and merchandise is afforded by 7-T Series of closed ledge type steel shelving with lockable doors. Units are 36 in. wide, 89 in. high, and have a ledge depth of 12 in. Ledge and shelf depths available are 24 and 12 in., 30 and 18 in., and 36 and 24 in., respectively. The waist high ledge provides a handy working erea. Standard starting sections include seven shelves. Doors are heavy gage steel, reinforced to prevent sagging, and equipped with three-point latches. Handle has a built-in key lock. Gray or green baked enamel is electrostatically sprayed over a phosphate undercoat. • **Alan Wood Steel Co.**, Penco Div., 200 Brower Ave., Oaks, Pa.

For more details circle NED-717 B1 on enclosed inquiry slip

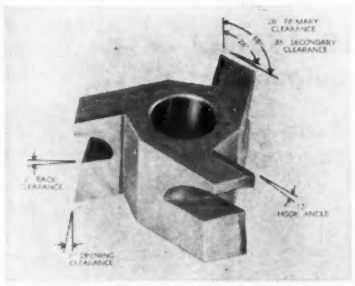
CORROSION RESISTANT WHEELS
in 4 to 18-in. diameters



Treated to withstand the deteriorating effect of exposure to brine, mild acids, caustics, and other corrosives, Bronco cast aluminum alloy wheels are coated with a sealing material and cured under pressure. Oil and grease resistant treads and sealed ball or roller bearings are standard, with Oilite bearings optional. • **Brown Rubber Co.**, 717 Stanford Ave., Los Angeles 21, Calif.

For more details circle NED-718 B1 on enclosed inquiry slip

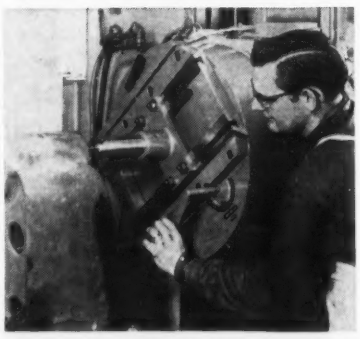
SHAPER CUTTER
two models are carbide tipped



Designed for long wear in cutting plywoods which contain phenolic resin type binding agents, this carbide tipped door-lip shaper cutter is made in two models. One is for clockwise rotation with feed from left to right with rabbet down, and the other is for counterclockwise rotation with feed from right to left with rabbet down. Cutter diameter is 2 9/16 in. and its ¾-in. bore may be reduced to ½ in. with furnished bushing. Price is $39.95. • **Rockwell Mfg. Co.**, Delta Power Tool Div., 481 N. Lexington Ave., Pittsburgh 8, Pa.

For more details circle NED-719 B1 on enclosed inquiry slip

BORING & FACING HEAD
capacity is up to a 36-in. circle



Internal and external boring, facing, and back spot facing are performed on all materials from gray iron to exotic space age metals by this circular boring and facing head. It has a capacity up to a 36-in. circle and is reported to save up to 70 per cent of job time on horizontal boring mills and radial drills. Head has a 3½-in. bore, but may be sleeved or bored to fit other size spindles and boring bars. Unit has ten adjustable feeds in and out from 0.0025 to 0.025 in. and a reversing index lever which eliminates manual return of the tool slide. A direct-reading micrometer adjustor graduated in 0.001 in., is operated by a hand crank to make tool slide settings from zero to 36 in. swing. The dynamically balanced head may be operated at very high surface speeds. • **Keller Equipment & Mfg. Co.**, 2320 Military Rd., Buffalo, N. Y.

For more details circle NED-720 B1 on enclosed inquiry slip

find cracks, leaks, defects with push-button ease!

ZYGLO®

BLACK LIGHT portable fluorescent penetrant inspection kit by **MAGNAFLUX**

IDEAL FOR
- Finding oil leaks
- Maintenance inspection
- Testing cast or machined parts during manufacture
- Tool inspection

FIRE SAFE: All materials have high flash-point. Spray cans eliminate waste, spillage, contamination.

Take the guesswork out of testing! ZYGLO, the *most sensitive* fluorescent inspection method available, makes every crack glow. Use it anywhere —in the shop, in the field.

Complete ZYGLO KIT shown above including 100 W. BLACK LIGHT **$125.00** F.O.B. CHICAGO

Order Today or Write for Data. New illustrated bulletin gives complete facts on ZYGLO Kit and replacement materials.

MAGNAFLUX CORPORATION
A Subsidiary of General Mills
7349 W. Ainslie Ave., Chicago, Ill.

For more details circle NED-721 B1 on enclosed inquiry slip

PARTLOW LIMIT CONTROLS

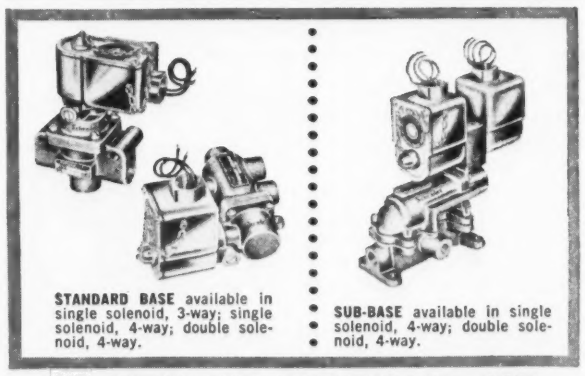
Partlow offers a complete range of mercury-actuated limit controls and safety equipment for every kind of industrial application. Indicating, non-indicating and recording models . . . rated for 15 amp. loads, and powered by Partlow interchangeable mercury elements to function anywhere from -30° to 1100°. FM-approved models feature auxiliary element failure switch, and manual reset, high-limit cut-off switch.

Ten optional temperature ranges available. Write for new Bulletin 501:

The Partlow Corp., New Hartford, N. Y., Dept. N-261.

PARTLOW
TEMPERATURE CONTROLS

For more details circle NED-722 B1 on enclosed inquiry slip



STANDARD BASE available in single solenoid, 3-way; single solenoid, 4-way; double solenoid, 4-way.

SUB-BASE available in single solenoid, 4-way; double solenoid, 4-way.

25 NEW JIC SOLENOID AIR VALVES by SCHRADER

. . . meet and exceed JIC specs

Twenty-five new compact and rugged JIC Solenoid Air Valves have been added to the Schrader line. They are easy to install. Have roomy junction boxes for convenient electrical connections. Can be operated by hand without current in an emergency. Safe, recessed override buttons prevent accidental operation. Fifteen of these new JIC Valves are made with standard base; ten with sub-base.

Write for catalog insert with complete specifications and data on these 5 new Schrader JIC Solenoid Air Valves.

Schrader® a division of SCOVILL

A. SCHRADER'S SON
Division of Scovill Manufacturing Co.
459 Vanderbilt Ave., Brooklyn 38, N. Y.
QUALITY AIR CONTROL PRODUCTS

For more details circle NED-723 B1 on enclosed inquiry slip

IF YOU BEND . . . tube, bar, rolled or extruded shapes . . . on small-lot, experimental, maintenance or production jobs . . .

AND . . . you want quality bends at speeds of 300 to 400 an hour to ±½° angle tolerances . . .

OR . . . you need broad versatility for varied jobs in a multitude of materials, sizes, and shapes, . . . capacity to 1¼" O.D. tubing . . .

BUT . . . require easy set-up (2-minute change from RH to LH bending) and low initial investment . . .

REDUCE YOUR BENDING COSTS . . . IMPROVE PRODUCT QUALITY WITH

PINES MODEL 1400

INVERTIBLE ROTARY BENDING MACHINE

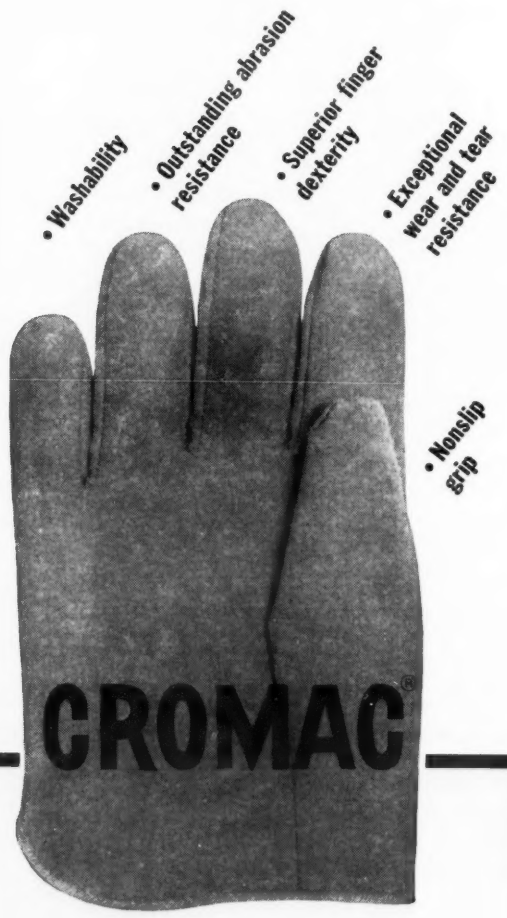
WRITE TODAY FOR CATALOG 356

PINES ENGINEERING CO., INC.

Specialists in Tube Fabricating Machinery 640 WALNUT • AURORA, ILLINOIS

PRODUCTION BENDING • DEBURRING • CHAMFERING MACHINERY

For more details circle NED-724 B1 on enclosed inquiry slip



NEW!

Plastic-impregnated Cromac® gloves by Jomac that give unique 5-point glove performance

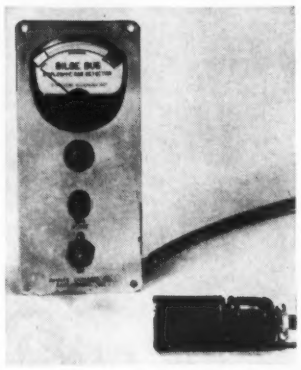
FREE SAMPLE PAIR will convince you . . . Cromac gloves by Jomac are all we say they are and more. Write Department G, Jomac Inc., Philadelphia 38, Pa.

JOMAC

"Jomac Sells Quality . . . and Quality Sells Jomac!"

For more details circle NED-725 B1 on enclosed inquiry slip

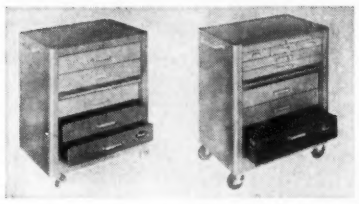
EXPLOSIVE VAPOR DETECTOR
supplied in 6 and 12-v dc models



Primarily intended for use aboard boats, the Bilge Bug can also be used in industrial or other locations to detect concentrations of gasoline, natural gas, and other combustible vapors. It consists of a control indicator panel, a sensor unit, and connecting cable, and is supplied for 6 and 12-v dc operation. Installed anywhere combustible mixtures may collect, the sensor reacts to the presence of vapors and indicates the condition on the meter. • **Engelhard Industries, Inc.**, 75 Austin St., Newark 2, N. J.

For more details circle NED-726 B1 on enclosed inquiry slip

DRAWER UNITS
increase tool cabinet storage space

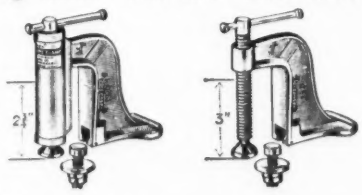


Fasteners and hole drilling are unnecessary when installing Add-A-Drawer drawer unit in the open storage space of two models of Huot mobile tool cabinets. Drawers slide into place and are firmly seated between the oversize full-length corner post standard in these cabinets. Movable slides on which drawers operate permit 100 per cent pull-out with firm support. Cabinet 201 users can add two extra drawers measuring 21½ x 16 x 4 in., whereas cabinet 250 accommodates one large drawer measuring 21½ x 16 x 5 in. Drawers are furnished in baked steel gray or red enamel. • **Huot Mfg. Co.**, 500 N. Wheeler Ave., St. Paul 4, Minn.

For more details circle NED-727 B1 on enclosed inquiry slip

WELDING CLAMPS
have screw shield, sliding handle

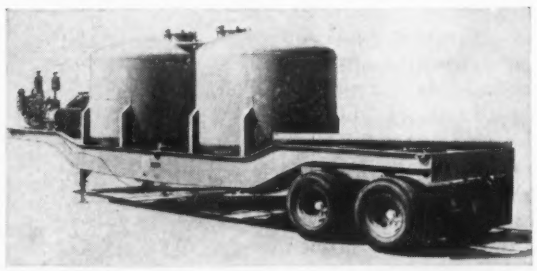
Heavy steel shield of Jorgensen hold-down clamps protects them from weld spatter, hammer blows, or contact with the welding torch. The solid steel screw and sliding handle, the ribbed and reinforced frame, and the shield are unaffected by repeated heating and cooling. The bolt can be installed in any surface, drill press, or T-slot table. When mounted, the clamp swivels 360 degrees around the bolt to hold work at the most convenient spot or angle. A cotter pin inserted across the slot opening keeps the clamp on the holding bolt. • **Adjustable Clamp Co.**, Dept. HC-34, 417 N. Ashland Ave., Chicago 22, Ill.



For more details circle NED-728 B1 on enclosed inquiry slip

BULK MATERIALS TRAILER
self-unloaded by air pressure

Up to 4000 lb per minute of bulk material are unloaded from this twin-tank trailer through a 4-in. pipe, using high pressure air with low volume. This pneumatic principle makes the material flow through the unloading pipe in a Hi-Density condition. Air is supplied by a self-powered unit mounted at the front of the trailer (see photo). The light weight, clean bore vessels discharge their contents cleanly and completely, and are easily cleaned between product changes. The self-unloading trailer unit will handle many powdered and granular products, including sugar, plastics, chemicals, and feed. • **Heil Co.**, 3000 W. Montana St., Milwaukee 1, Wis.



For more details circle NED-729 B1 on enclosed inquiry slip

NEW!

a SMALLER 10 Amp Relay with INDUSTRIAL FEATURES

for direct connection or plug-in

• Three mounting arrangements
• Well suited for machine tool applications
• Molded coil
• No solder joints
• Optional pilot light
• Non-breakable nylon dust cover

Relay shown with dust cover removed

WRITE FOR DETAILS
Square D Company, Dept. SA
4041 North Richards St., Milwaukee 12, Wis.

SQUARE D COMPANY

wherever electricity is distributed and controlled

For more details circle NED-730 B1 on enclosed inquiry slip

IF YOU WANT COMPLETE SAFETY IN YOUR SAFETY SWITCHES— REMEMBER THE "V" FOR VISIBLE BLADES!

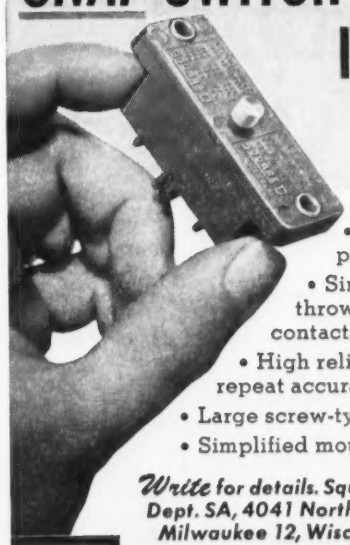
Write for new Safety Switch Bulletin
Square D Company, 1601 Mercer Road
Lexington, Kentucky

SQUARE D COMPANY

wherever electricity is distributed and controlled

For more details circle NED-731 B1 on enclosed inquiry slip

NEW 2-POLE PRECISION SNAP SWITCH MOUNTS IN SMALL SPACE



• Same size as single-pole switch
• Single throw or double throw—double-break contacts
• High reliability—precise repeat accuracy—long life
• Large screw-type terminals
• Simplified mounting

Write for details. Square D Company, Dept. SA, 4041 North Richards Street, Milwaukee 12, Wisconsin

SQUARE D COMPANY

wherever electricity is distributed and controlled

For more details circle NED-732 B1 on enclosed inquiry slip

MEASURE RPM by TOUCH

with **STANDCO**
VIBRATING REED TACHOMETERS
PORTABLE AND STATIONARY TYPES

• SIMPLE • EFFECTIVE
• DURABLE • SAFE
• IMPOSE NO LOAD
• EASY TO USE
• EASY TO INSTALL

Bulletin No. 770

Various models. Ranges as low as 600 RPM, as high as 100,000 RPM.

HERMAN H. STICHT CO., INC. 27 PARK PLACE, NEW YORK 7, N. Y.

For more details circle **NED-733 B1** on enclosed inquiry slip

Battery-powered magnets offer improved work handling at low cost

Sundstrand battery-operated lift magnets extend the work range of conventional hoists, cranes, and lift trucks without requiring major capital outlays or tying up equipment while making change-overs.

One lift is all that is required even when work moves from one shop area to another, to an outside loading dock, or to yard for storage because the power source moves right along with the work.

Two capacities

Either 2000 or 4000 lb of lifting capacity is provided by two models using 6- or 12-volt automotive-type batteries. Dial indicates need for recharge, usually is handled overnight.

Distributors:

Sundstrand Lift Magnets offer attractive sales opportunities. Investigate. Details on request.

SUNDSTRAND-AMERICAN BROACH
DIVISION OF SUNDSTRAND CORPORATION
ANN ARBOR, MICHIGAN

For more details circle **NED-734 B1** on enclosed inquiry slip

STOP GLUE WASTE
CUT MAINTENANCE
SAVE UP TO 83%

WITH FF GLUE GUNS

You can throw away your messy rolls, clogged brushes, open glue pots when you install FF glue guns. And you cut gluing costs up to 83%! Because the amazing FF system is totally enclosed, engineered to put glue exactly where you want it and in the precise amount required . . . fast, efficiently and without waste. Over 600 stocked models handle most mechanical and manual operations . . . with specials and miniatures available to meet any unusual gluing conditions. Easy to install and operate. Fully guaranteed. Thousands of enthusiastic users. Illustrated catalog available upon request. Write, wire or phone for your copy today.

Stripe-action roller gun

Roller gun, plunger actuated

Plunger-action valve body

Spot guns, machine mount

JOHN P. FOX COMPANY, INC.
1107 S. Mountain Monrovia, Calif.
"FF GLUE GUNS . . . since 1946"

For more details circle **NED-735 B1** on enclosed inquiry slip

VIBRATING FEEDER
equipped with screw pick-up unit

Constant flow of small to miniature size screws in proper position for contact and instant pick-up by hand or power screwdrivers is provided by the Instant Pick-Up Feeder. It consists of a vibrating positioning feeder with funnel feed-up which is oriented and machined to the specific screw and screwdriver holder being used. Holder may be a vacuum, magnetic, or spring clip pick-up type. Screws are fed automatically, and time wasted in reaching for, positioning, and holding them is eliminated. • **Burklyn Co.,** 3429 Glendale Blvd., Los Angeles 39, Calif.

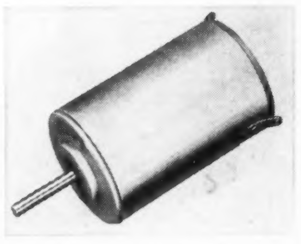
For more details circle **NED-736 B1** on enclosed inquiry slip

ELECTRONIC CAFETERIA
cook-it-yourself meals in 60 sec

Choice of three or four different hot meals daily can be prepared in the "cook - it - yourself" electronic cafeteria, a Radarange microwave oven unit for industrial plant use. Employees select frozen precooked meals (prepared by an outside commissary) from a refrigerated display case, place them in the oven, set the automatic timer according to the color code on the dinner, then remove the meal after an average heating time of 60 sec. Meals are furnished on plasticized, disposal tray-dishes and sealed in transparent envelopes. Advantages include menu variety, freedom from cooking odors, minimum space requirements, operation without subsidy, and minimum of sanitary problems. • **Raytheon Co.,** Radarange Dept., 100 River St., Waltham 54, Mass.

For more details circle **NED-737 B1** on enclosed inquiry slip

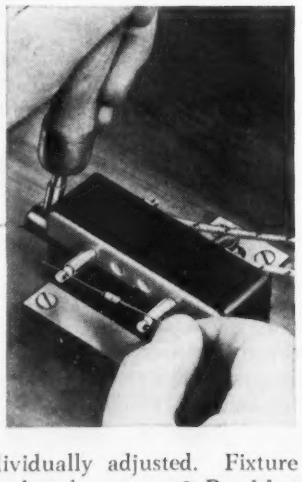
DIRECT CURRENT MOTOR
4.5 to 30-v battery operated model



Instruments, rotating beacons, marine equipment, dictating machines, and tape recorders are among applications for the Type HYQM direct current, battery operated motor. The 1-in. diameter unit has square brushes with pigtail connections, low current drain for long battery life, standard self-aligning sleeve or ball bearings, and is made with or without a governor. It is rated at 4.5 to 30 v dc and 1500 to 5000 rpm (governed) for ambient temperature up to 200° F. Rotation may be clockwise or counterclockwise. • **Barber-Colman Co.,** 1300 Rock St., Rockford, Ill.

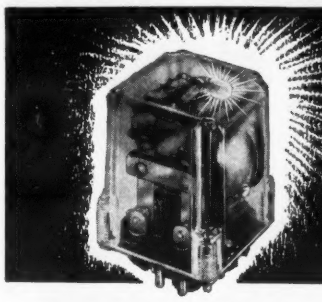
For more details circle **NED-738 B1** on enclosed inquiry slip

PIGTAIL LEAD GRABBER
speeds testing of resistors, diodes



This semiautomatic, bench - mounted fixture simultaneously seizes both pigtail leads of diodes, transistors, capacitors, and resistors to make low-resistance test connections without bending or breaking the leads. Spring-loaded jaws, $1\frac{1}{2}$ in. apart, are opened by pressing a handle or treadle. Part is dropped into the fixture and jaws close firmly on the leads when handle is released. Gripping jaws work separately and spring tension can be individually adjusted. Fixture requires only $3\frac{1}{4}$ x $3\frac{1}{4}$-in. bench space. • **Precision Metal Products Co.,** 41 Elm St., Stoneham, Mass.

For more details circle **NED-739 B1** on enclosed inquiry slip



LIGHT IN RELAY MONITORS CIRCUIT
KRP-N SERIES

P&B Plug-In Relay Has Built-In Lamp . . . Long Life, Switches 10 Amperes

Eliminates need for costly pilot lights. Lamp lights when relay coil is energized. Operates on 1.2 watts DC or 2 volt-amps AC . . . relay's compact design, reliability and switching capabilities make it ideal for automation and communication applications.

ENGINEERING DATA

CONTACTS:
material: 3/16" dia. silver cadmium
rating: 10 amps at 115 volts AC 60 cycle, non-inductive
arrangements: up to 3PDT
Lamp: AC 6 to 230 volts, DC 6 to 110 volts

COIL:
voltage: DC 6 to 110, AC 6 to 230
power: 1.2 watts DC, 2 volt-amps AC
resistance: 16,500 ohms max.

Enclosure: clear cellulose acetate dust cover with 8 or 11-pin plug-in header.
Dimensions: 2" high x 1 13/32" square

KRP-N (DPDT) RELAYS ARE STOCKED BY LEADING ELECTRONIC PARTS DISTRIBUTORS

POTTER & BRUMFIELD
DIVISION OF AMERICAN MACHINE & FOUNDRY COMPANY, PRINCETON, IND.

For more details circle **NED-740 B1** on enclosed inquiry slip

PALNUT LOCK NUTS and FASTENERS
—Cost Little
—Assemble Fast
—Hold Tight

Many types and sizes to slash fastening costs on sheet metal assemblies—mechanical and electrical equipment —components—parts—ornaments, etc.

SEND FOR CATALOGS AND FREE SAMPLES
Get details of all PALNUT Lock Nuts and Fasteners, plus typical applications and full specifications. Describe your application for recommendation and free samples. Or, have a PALNUT fastening engineer call.

PALNUT LOCK NUTS for threaded members
•
PUSHNUT® FASTENERS for unthreaded members
•
PALNUT Self-Threading Nuts—make their own threads

THE PALNUT COMPANY, 45 Glen Road, Mountainside, N. J.
DIVISION OF UNITED-CARR FASTENER CORPORATION
Canada: P. L. Robertson Mfg. Co., Ltd., Milton, Ont.

PALNUT® Lock Nuts and Fasteners
for quick, secure fastening at low cost

For more details circle **NED-741 B1** on enclosed inquiry slip

Whenever you have a sticking problem.....!

Use IMS **SILICONE FLUID SPRAY**
To cut your reject costs!

Next time you walk through the plant and see them losing production due to process sticking in molding, packaging or cutting ... just order IMS Silicone Spray! You'll want to take a can home too, to prove its superb lubricating and anti-stick quality on locks...ice trays... guns...fish reels...storm windows, etc.

Look for your FREE BONUS card in each unbroken dozen. Just mail us 12 of these cards and we'll send you one dozen cans at no charge!

PRICES (Delivered)	
Sample Can	$2.00
Per Unbroken Dozen	$18.00
Per Unbroken Gross	$197.40

INJECTION MOLDERS SUPPLY CO. INC.
17601 So. Miles Rd. Cleveland 28, O.

For more details circle **NED-742 B1** on enclosed inquiry slip

MULTIPLE USE

☆ Sweeps storage areas, plant aisles, driveways, yards, sidewalks, ramps, docks, parking lots . . . even grass cuttings.

☆ Handy for fast, low cost snow removal — up to 6" deep — from streets, sidewalks, parking lots.

JOB-PROVED FEATURES

☆ Hydraulic model offers finger-touch control of two-way sweeper angle, brush lift and brush rotation. Brush raises 8" to clear obstructions; brooms available with 32" diameter, 60" and 72" lengths.

☆ Low cost mechanical unit has 30° sweeping angle, 5' and 6' brush lengths, sprinkler attachment available.

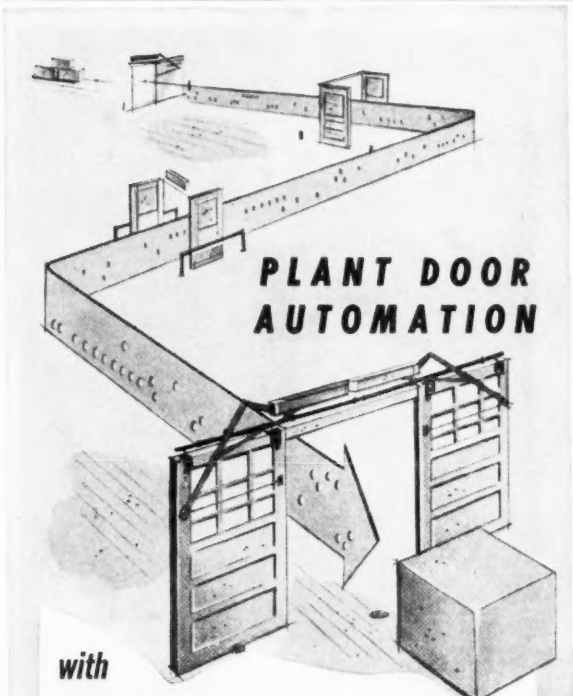
Easily removed or attached, M-B Sweepers fit most any popular tractor. See your tractor dealer now or write the M-B Corp., New Holstein, Wis., for complete information. Dept. NED

M-B CORPORATION NEW HOLSTEIN WIS

REFUSE PACKERS
LINE STRIPERS SWEEPERS

QUALITY MUNICIPAL & INDUSTRIAL EQUIPMENT SINCE 1907

For more details circle NED-743 B1 on enclosed inquiry slip



with

NEW MAGIC-DOOR MHO OPERATORS

*Low-cost investment . . . 67% return each year!**

Get maximum productivity at minimum cost by speeding materials flow throughout your plant. You can do it by extending automation to your plant doors that swing, slide or fold, with MAGIC-DOOR MHO Pneumatic Operators. Full powered for both opening and closing, MHO Operators will open and close your doors automatically and bring you BIG returns each year through these benefits: **controlled traffic flow; faster materials handling; reduced door and equipment damage; less spillage and cargo damage; conservation of warm and cool conditioned air, and improved working conditions and employee morale.**

Write for free data sheets and a folder on the MAGIC-DOOR MHO (Materials Handling Operators) line.

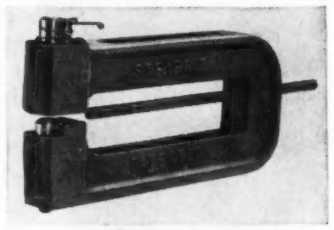
**A recent study of* MAGIC-DOOR *equipment in automatic operation of double swinging plant doors revealed a 67% return on the investment each year! Further information on request.*

STANLEY HARDWARE
Division of The Stanley Works
MAGIC-DOOR® SALES
Dept. B, 58 Lake Street, New Britain, Connecticut

STANLEY
REG. U. S. PAT. OFF.

For more details circle NED-744 B1 on enclosed inquiry slip

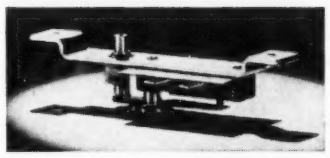
HOLE PUNCHING UNITS
used with or without guide buttons



All holders of BN Series hole punching units have self-storing keys which make it possible to use both round and shaped punches and dies in the same holder. They are usable with or without guide buttons in punching holes in material up to 10 gage. The option of using a fitted or closed guide is still available for special applications. Design of die section permits easy removal and rotation of the die without removing the holder. Holders permit punching close to the leg of formed flanges and angles. They have hold-down slots for easy mounting and retainer clips for rapid removal of stripping guides. • **Wales Strippit Inc.**, 227 S. Buell Rd., Akron, N. Y.

For more details circle NED-745 B1 on enclosed inquiry slip

SNAP-ACTION THERMOSTATS
operate on 5° F differentials



Series D snap-action thermostat for control of temperature in air streams has an exposed bimetal for quick response, with contacts enclosed for protection against dust and corrosion. Differentials can be as narrow as 5° F. Type D nonadjustable, Type D adjustable, and Type DM manual-reset styles are offered for use in air conditioners, refrigerators, furnace fans, rectifier fans, electronic and avionic equipment, and industrial apparatus. Units for single-pole double-throw operation are also obtainable. • **Norwalk Thermostat Co.**, Dept. 75, 52 Woodlawn Ave., Norwalk, Ohio.

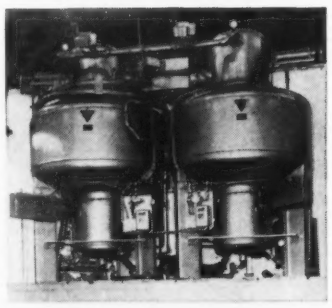
For more details circle NED-746 B1 on enclosed inquiry slip

AUTOMATIC BATTERY CHARGERS
in 24-120-v dc, 1-125-amp ratings

Silicon controlled Full-Float automatic chargers for stationary type batteries provide direct-current voltage regulation within less than ½ per cent for input line changes of ±10 per cent and frequency change of ±5 per cent. Units are available from 24 to 120 v dc in capacities from 1 to 125 amp. Current limiting is provided in both the "float" and "equalize" positions for overload protection to the charger and the battery. Units cannot short circuit. Transformer, semiconductor assembly, and control unit modules are individually packaged and mounted for easy inspection and test. • **Hughes Electronics Co.**, 5343 Crenshaw Blvd., Los Angeles 43, Calif.

For more details circle NED-747 B1 on enclosed inquiry slip

VAPOR RECOVERY SYSTEM
reduces solvent cleaning costs



Vapors usually lost during solvent degreasing and cleaning operations are recovered by this vapor recovery system. In addition to reducing solvent costs by as much as 50 per cent, the vapor adsorber equipment also removes undesirable solvent vapors from the atmosphere of adjacent working areas. This latter feature eliminates corrosion on surfaces of finished parts and stops the cause of uneven paint finishes. System recovers the vapors by ducting them to a special tank with a bed of activated carbon, returning clear, reusable solvent after a steaming and decantering process. Eleven models have capacities from 700 to 5500 cfm, motors from 1 to 10 hp, and boiler ratings from 3½ to 25 hp. Sizes range from 43½ x 34½ x 55½ in. to 162 x 94 x 114 in. • **Vic Mfg. Co.**, 1313 Hawthorne Ave., Minneapolis 3, Minn.

For more details circle NED-748 B1 on enclosed inquiry slip

AIR-MATIC* PARTS WASHER
FOR SAFE, TIME-SAVING CLEANING

CLEANS BETTER,
ELIMINATES LABOR,
IMPROVES SAFETY

Air engine operating on 35 p.s.i.g. moves loaded parts basket up and down *through* solvent (with minimum agitation of liquid for safer operation) at 50/100 cycles per minute, depending on setting of control valve. Parts are washed faster, require no operator attention. Simple, sturdy, foolproof operation. Two handled basket can be attached to lugs above liquid level of tank for draining. Renewable fusible link drops cover to snuff out fire. Unit, Factory Mutual approved, comes complete with 8 feet of air-hose, control valve and swivel coupling for easy connection to air supply. Write for complete details and Protectoseal Catalog containing time and money saving ideas for handling solvents in production-line and cleaning operations.

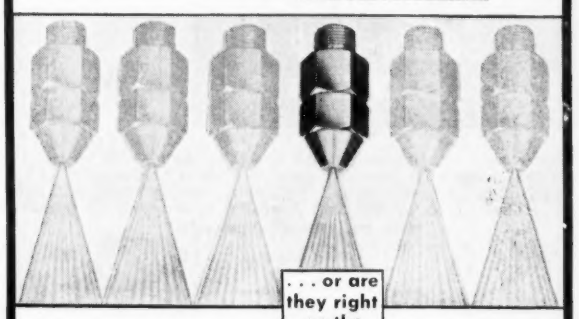
**Automatic Washer Powered By Air*

7

THE PROTECTOSEAL COMPANY
1964 South Western Avenue • Chicago 8, Illinois

For more details circle NED-749 B1 on enclosed inquiry slip

Are the SPRAY NOZZLES you use in the grey zones . . .



. . . or are they right on the beam?

Like an electronic system, a spray nozzle system can be *tuned* for maximum performance. To do this select spray nozzles that *exactly* fit the system needs . . . in terms of capacity, spray characteristics and materials. The use of Spraying Systems spray nozzles keeps spraying installations out of the costly grey zones. The reason: you have a choice of over 12,000 *standard* nozzle types and capacities to match the nozzles exactly to your need.

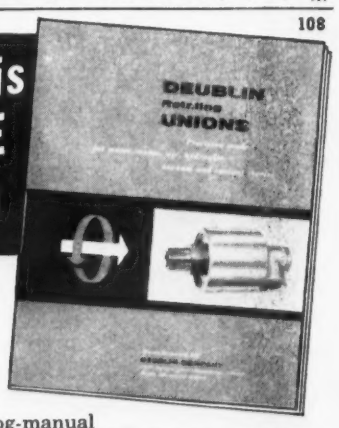
FOR PROOF . . . write for Catalog No. 24.

SPRAYING SYSTEMS CO.
3211 Randolph St. • Bellwood, Ill.

For more details circle NED-750 B1 on enclosed inquiry slip

108

Send For This NEW FREE Catalog On



DEUBLIN Rotating UNIONS

A completely new, 20 page illustrated catalog-manual showing all the models of Deublin Rotating Unions for water, steam, air, hydraulic, vacuum and coolant service for the machines you make or use, is just off the press to help you get trouble-free service and reduce your "down-time" and keep maintenance to a minimum. Shown are rotating joints for water and steam service; monoflow and duoflow unions; single and double passage rotating air unions; hi-pressure lo-torque unions; extra capacity air unions; rotating siphon pipe unions; in-the-shaft mounted unions; hydraulic rotating unions and hi-speed coolant unions. Complete with full engineering data, cut-away drawings, plus instructions for installing, lubricating and servicing Deublin unions.

Write for your free copy today.

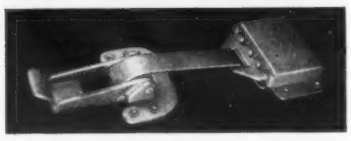
DEUBLIN COMPANY
1925 STANLEY ST. • NORTHBROOK, ILL.

For more details circle NED-751 B1 on enclosed inquiry slip

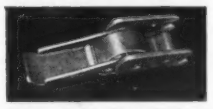
HOW TO SOLVE CLAMP AND FASTENER PROBLEMS

The answer: Get acquainted with Bassick's broad line of clamps and fasteners. Just two examples are shown here:

Bassick "Power Pack" (consisting of latch assembly, or strike, SC-52, and clamp HR-53) is designed to operate well under subzero weather conditions. Ice formation in the mechanism is practically impossible. Recommended for fastening chests, cases, testing-device covers and many similar applications. Highly shock resistant.



Hinge-type clamps, Bassick "D" Series, are ideal for fastening covers on containers, panels on aircraft equipment, truck body components, and other applications requiring the closed clamp to work as a hinge. An easy way, for example, to provide easy access from either side to a tool box, engine compartment, etc.



New, 1960 edition of Bassick Clamp and Fastener Catalog contains more clamps, including the exclusive Bassick Gear-Lock—the worm-gear clamp that provides 20 times the closing force of the best spring clamps. Write for your copy today. 1-4

THE BASSICK COMPANY
Bridgeport 5, Conn.
In Canada: Belleville, Ont.

Symbol of SW Excellence — Bassick — A DIVISION OF STEWART-WARNER CORPORATION

▲ For more details circle **NED-752 B1** on enclosed inquiry slip ▲

GO UP WITH CONFIDENCE ON

BALLYMORE *Safety-Step* LADDERS

GRIPS THE FLOOR

ROLLS EASILY

Welded steel or aluminum safety treads combined with wide-base pyramid design offer extra safety and stability at heights up to 15 ft. Spring-mounted casters permit easy rolling, yet grip the floor firmly for safety. Corrosion-resistant. Available in 4 types, 47 models.

WITH OR WITHOUT HANDRAILS

For illustrated catalog covering complete line, write to

BALLYMORE COMPANY, WEST CHESTER 3, PA.

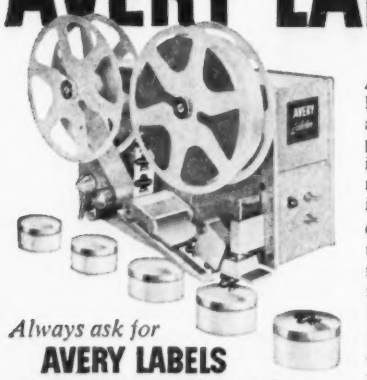
Call your LOCAL DISTRIBUTOR

BALLYMORE
EQUIPMENT FOR WORKING *Safely* ABOVE FLOOR LEVEL

▲ For more details circle **NED-753 B1** on enclosed inquiry slip ▲

CUT COSTS — *speed pressure-sensitive labeling operations with the NEW full automatic*

AVERY LABELER



Avery's new automatic Labeler is designed for applying all sizes of Avery pressure-sensitive Labels in *exacting register* on flat, rounded, concave or irregular surfaces.

Can be simply adjusted to apply 40 to 300 labels per minute—will handle as many as 12,000 Avery Labels *without reloading.*

For special applications—or to meet specific labeling problems, the new Avery Labeler can be modified to fulfill individual requirements.

Always ask for **AVERY LABELS** *what a difference they make!*

WRITE FOR FULL DETAILS NOW! *there's no obligation*

AVERY LABEL COMPANY, Division 102 • 117 Liberty Street, New York 6
608 S. Dearborn St., Chicago 5 • 1616 S. California Ave., Monrovia, Calif.
Offices in Other Principal Cities.

☐ Please send details on how Avery Labels can save me time and money.
☐ Please have your sales representative call soon.

Name_____ Company_____ Title_____
Address_____ City_____ Zone____ State_____

P.S. Avery File Folder Labels, Correction Tape, Photomounts, and Price Marking Labels are available at stationers everywhere.

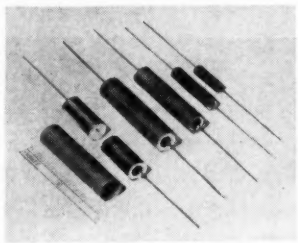
▲ For more details circle **NED-754 B1** on enclosed inquiry slip ▲

GO & NO-GO GAGE
checking done in one insertion

Simple movement of the wrist upward enables the user of the Snap-Plug gage to determine whether a part is in size or oversize. Both "go" and "no go" are checked with single operation. Range is adjustable from 2 to 4 in. Tool also detects such conditions as taper, bellmouth, and out-of-roundness. Interchangeable, replaceable gage pins are used in the cast aluminum frame. Kit contains a handle, 16 gage pins, micrometer type centralizing gage, adjustment wrench, and instructions. Carbide-tipped pins are optional. • **Southern Gage Co.,** Erin, Tenn.

▲ For more details circle **NED-755 B1** on enclosed inquiry slip ▲

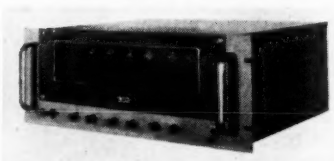
NONPOLAR CAPACITORS
in values from 0.16 to 160 mfd



Nonpolar solid tantalum capacitors are now available in values from 0.16 to 160 mfd and in working voltages of 6, 10, 15, 30, 35, and 50 v ac for continuous operation at 85° C. The Series N capacitors are made nonpolar by back-to-back connection of two Series J tantalum capacitors of identical value. The unit is then placed in a rigid plastic sleeve. They can be used in direct-current circuits if the combined dc voltage superimposed on the ac voltage does not exceed the working voltage rating. • **Kemet Co.,** 11901 Madison Ave., Cleveland 1, Ohio.

▲ For more details circle **NED-756 B1** on enclosed inquiry slip ▲

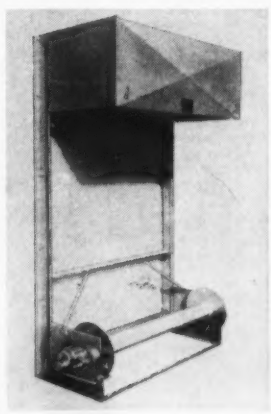
DIGITAL TIME GENERATOR
for system control, synchronization



A 1-kc tuning fork oscillation is employed by the Model 320 digital time generator to assure time-base accuracy of 5 parts in 100,000 for any clocked interval. The electronic device is used for system control and synchronization, or for time correlation among diverse data acquisition and logging devices. Basic pulse frequency provides timing marker output at 0.001-sec intervals and, by means of transistor flip-flop dividers, every 0.01, 0.1, and 1-sec intervals. Decimal output to a total of 23 hr, 59 min, 59 sec is simultaneously displayed on six in-line Nixie glow tube decimal indicators. An optional output duplicates the decimal values in binary-coded decimal form. Decade selection pushbuttons permit presetting any real time value. Controls may be remotely operated and synchronized with or triggered by other instrumentation. Rack mounting is standard. Basic price is $2950. • **Lockheed Electronics Co.,** Technology Div., Box 446, Metuchen, N. J.

▲ For more details circle **NED-757 B1** on enclosed inquiry slip ▲

AIR FILTER
roll media unwinds from the top

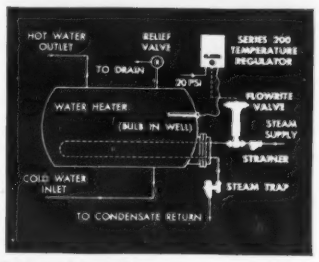


Filtering media of the Farr V-7 Roll-Kleen air filter unwinds from the top, passes downward across the face of the air cleaner, and rewinds on a bottom spool. When pressure drop reaches a preset limit because of dirt accumulation, a pressure switch actuates a mechanism that advances the media, presenting a clean surface to the air stream. Four models with a choice of automatic drive or manual operation are offered. Roll consists of 65 ft of glass filter material with efficiency above 81 per cent. It operates best at air velocities of 350 to 500 fpm. Models are available in 3, 4, or 5-ft vertical sections in heights ranging from 5 to 15 ft in 4-in. increments. • **Farr Co.,** Box 90187, Airport Station, Los Angeles 45, Calif.

▲ For more details circle **NED-758 B1** on enclosed inquiry slip ▲

Practical Ways To Control Hot Water Storage Heaters

Powers *Engineer's Manual, Steam-Water Service* containing diagrams such as the one shown here on storage heater control is available to you without obligation. Included are diagrams and details on domestic hot water . . . instantaneous heat exchangers . . . heat exchangers for cooling . . . fuel oil heaters . . . pressure reducing . . . jacket water cooling . . . two-temperature hot water systems.

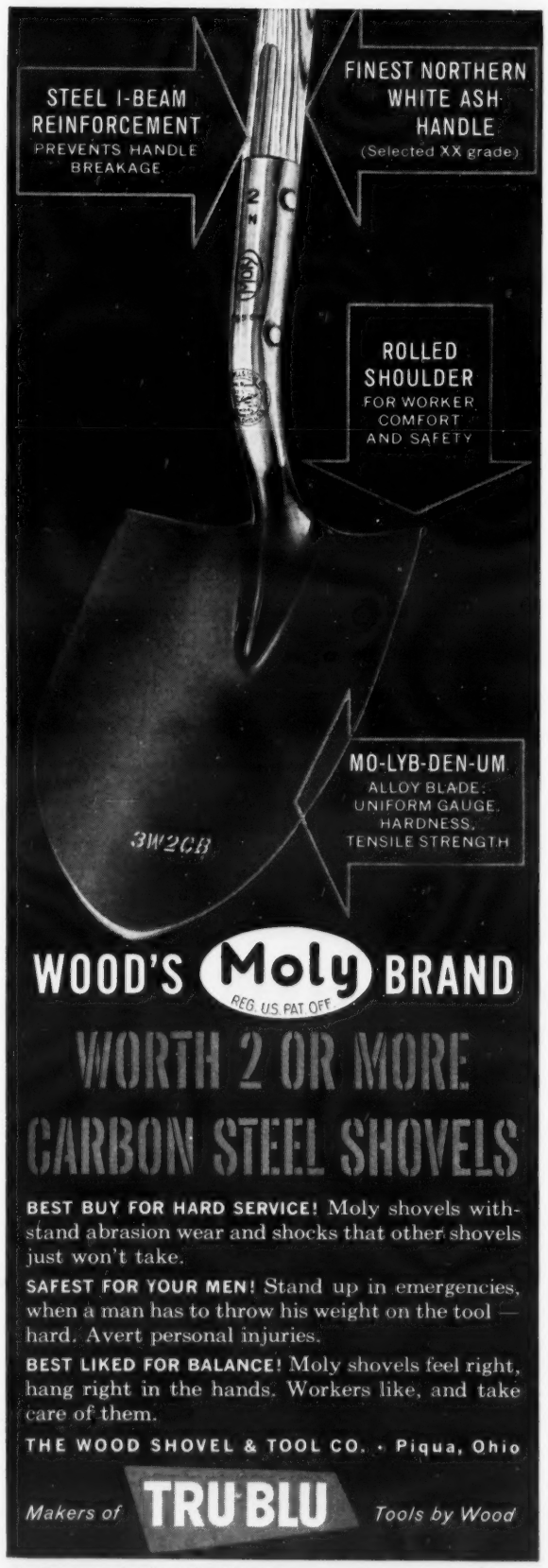


Send for your Engineer's Manual now! Also ask for recommendations on any special requirements.

POWERS CONTROL

THE POWERS REGULATOR CO.
Dept. 261 Skokie 44, Illinois
In Canada:
The Powers Regulator Co. of Canada Ltd.
Downsview, Ontario

▲ For more details circle **NED-759 B1** on enclosed inquiry slip ▲



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Makers of TRU-BLU *Tools by Wood*

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rout birds in warehouses, graneries, hangers, plants

Damage to steel, grain, plant equipment and warehoused goods totals millions of $$$ annually. NOW it's easy and inexpensive to get rid of birds for good . . . *results guaranteed!* Designed especially for indoor use, the MARK IX flashes 200 intense alternate-color beams per minute. Pounding light beams and frightening shadows chase the birds—prevent nesting and feeding. Corrosion-proof, lifetime housing; 115 V or 220 V; 1500 hour bulb; easily installed.

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Division of TRIPPE MFG. CO.

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high shear type for liquids

Compact and self-contained, the Shear-Flow mixer is capable of mixing any liquid that can be pumped. The relatively small Hi-Shear mixing head is enclosed within a sealed chamber that contains an inlet for the introduction of material and an outlet for passing the finished mixture. Being completely sealed, the possibility of air entrainment is eliminated, making it suitable for use on pressure systems, inversion applications, and introduction of gases to liquids. Inflammable materials can also be used in safety. Where a fine blend at a high rate of flow or the introduction of different materials must be made separately along the route of flow, more than one unit can be installed in series. Head is powered by 1 to 10-hp motors. • **Gabb Special Products, Inc.**, Windsor Locks, Conn.

For more details circle NED-764 B1 on enclosed inquiry slip

Gain higher speeds-lower maintenance-longer press life!

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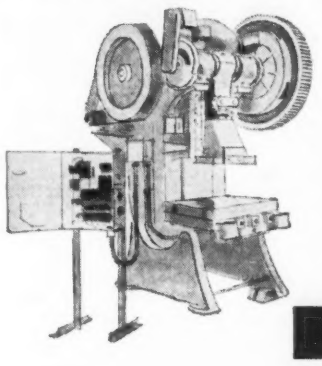

FEATURES:
Fail-safe Control
Dual Solenoid Valve
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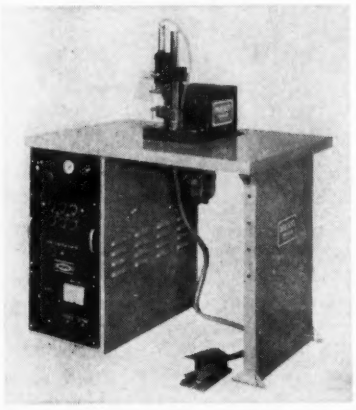
FEDERAL open-back inclinable **PRESSES**

THE FEDERAL PRESS COMPANY of Elkhart

Dept 906, Elkhart, Indiana

For more details circle NED-766 B1 on enclosed inquiry slip

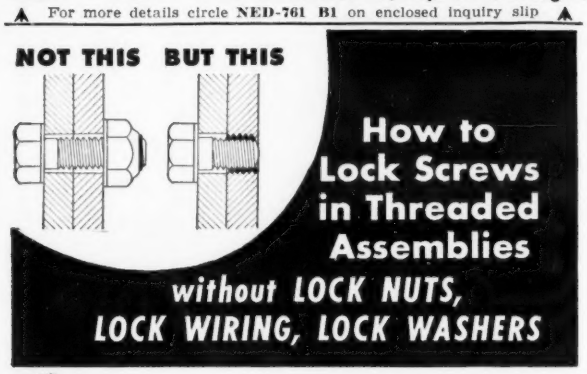
BENCH WELDER
has two types of welding controls for small parts, thin gage metals



Speed of the Model 369B bench welder can be adjusted to the operator's capability in welding small components and delicate parts of thin gage nickel, tantalum, molybdenum, Kovar, copper clad, and other metals. Standard transformers are rated 300 to 2000 va. Welding controls offered are an alternating current type which permits a relatively long weld time at low energy level; and a pulse firing power system that transmits extremely high energy to workpiece in about 1 millisecond with little heat dissipated into the work.

Electrode force is adjustable from 2 to 38 lb. One or more head assemblies accommodated on the machine base are easily changed over from spot to projection welding. Single-phase welding controls mount in a cabinet which acts as the left-hand pedestal of the bench. A two-stage foot pedal applies the pressure, then initiates the weld. • **Sciaky Bros., Inc.**, 4915 W. 67th St., Chicago 38, Ill.

For more details circle NED-765 B1 on enclosed inquiry slip



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- positively locks screws against loosening under impact and vibration
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Take a close look at this new limit switch! It's so immune to moisture, we'll guarantee it, electrically and mechanically, for one year or 10,000,000 operations...whichever comes first. We call it our Super-Sealed SL2-T. If you've ever had limit switch trouble caused by water, soluble oils, condensate or *any* kind of moisture, you'll want complete details. Call, write or wire. **National Acme**

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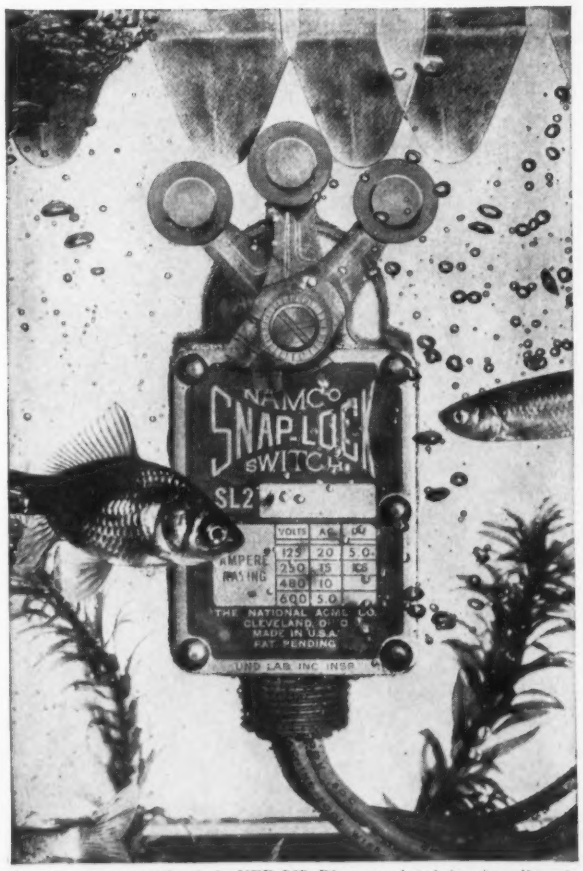
Sales Offices: Newark 2, N. J., Chicago 6, Ill., Detroit 27, Mich.



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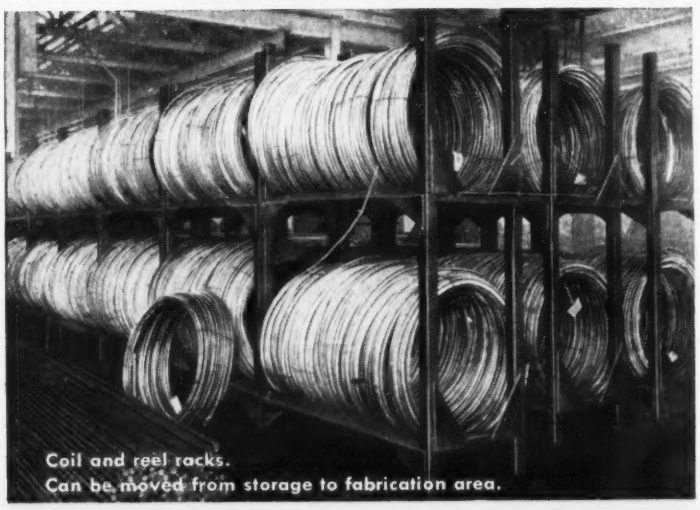

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Can be moved from storage to fabrication area.

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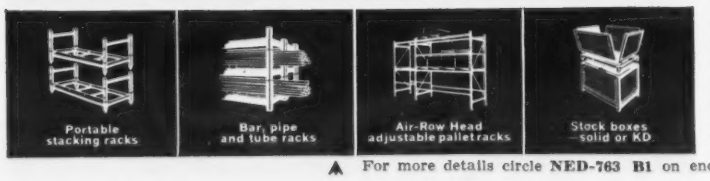

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—handles FOUR different fluids or gases at one time!

NO CLEAN-UP REQUIRED

—to change materials or color as pump parts do not contact the fluids or gases

Ideal for plants pumping glue, inks, acids or other liquids up to 30 gallons per hour, and in laboratories where controlled quantities must be pumped. Pumps operate quietly; seal off when stopped; flow rate of each station can be controlled separately. Pumps will also handle gases at same volume rate as liquids. Explosion-safe, fully enclosed motor; air motor or shaft drive available. Pump features lightweight, aluminum construction and is completely portable.

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When you hire a man for a full-time job, you expect full time work. So why buy one-job equipment that loafs until its specialty is called for?

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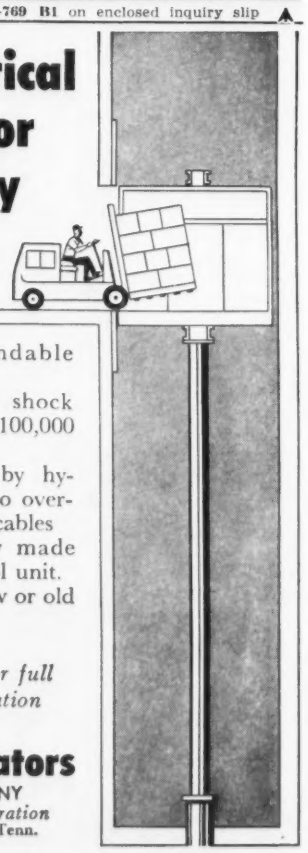
Most practical elevator for heavy-duty service



- Economical, dependable hydraulic operation
- Ruggedly built for shock loading . . . 1000 to 100,000 lb. capacities
- Elevator supported by hydraulic system . . . no overhead machinery, no cables
- Adjustments quickly made on one central control unit.
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Oildraulic® Elevators
ROTARY LIFT COMPANY
Division of Dover Corporation
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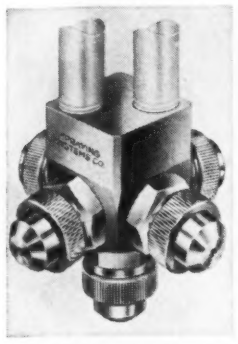
Chatham, Ontario

For more details circle NED-770 B1 on enclosed inquiry slip

TANK FOGGING ASSEMBLY
consists of five-nozzle spray



Chemical treating of processing tanks as a part of a cleaning operation can be performed by this five-nozzle pneumatic atomizing assembly. Effective fogging of the complete tank interior is possible, as the sprays are projected into a closed system and turbulence is rapidly built up. Unit is made in various air and fluid nozzle set-ups for a choice of atomized spray capacities ranging from 1 to over 200 gph. Extremely fine atomization is obtained, even at air and water pressures as low as 20 psi. Nozzles are available to produce a round, wide angle round, or flat spray. Assemblies are furnished in nickel plated brass and stainless steel. • **Spraying Systems Co.**, 3211 Randolph St., Bellwood, Ill.

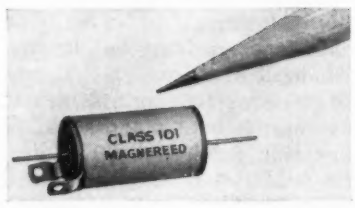
For more details circle **NED-771 B1** on enclosed inquiry slip

DIAL TELEPHONE INTERCOM
full trunkage system needs no board

Convenience of an automatic dial system with full trunkage (individual two-way conversation for every pair of phones in the system) without a switchboard is provided by the Fanon 1010 dial telephone business intercom. All switching is accomplished by the telephones themselves which permit up to five "private" conversations, or "common talking" conference facility between a number of telephones. Up to 11 dial telephones can be used, although the system can be expanded by using fewer dial (master) phones and adding remote telephones which can call the master phone. If six master phones are used, each can have five remote phones associated with it, or a total of 36 stations in the system. System operates on 6 to 9 v dc supplied by a 110-v ac power supply. • **Fanon Electronic Industries, Inc.**, 439 Frelinghuysen Ave., Newark 12, N. J.

For more details circle **NED-772 B1** on enclosed inquiry slip

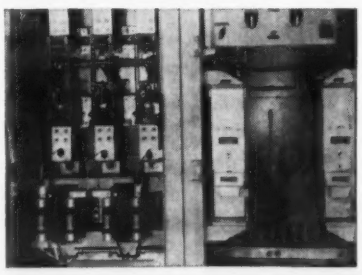
MAGNETIC REED RELAY
has high switching speed



Gold contacts of the high speed Magnereed Class 101 magnetic reed relay are hermetically sealed inside a glass capsule in an inert gas atmosphere. The miniature unit consists of magnetically actuated contact assembly inside an actuating coil. Adaptable to most mounting requirements, including printed circuits, the relay has single-pole single-throw normally-open contacts rated at 12 w resistive load. Operation time is less than 1 millisecond and release time is less than ½ millisecond. Diameter is 7/16 in. and over-all length with standard solder terminals is 1½ in. • **Magnecraft Electric Co.**, 3350K W. Grand Ave., Chicago 51, Ill.

For more details circle **NED-773 B1** on enclosed inquiry slip

ELECTRIC OPERATORS
for high-voltage switchgear

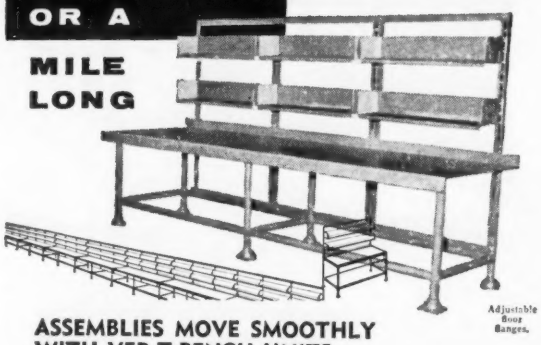


Metalclad fused load interrupter switchgear used for 4.8 to 14.4-kv switching centers, substation primaries and secondaries, and service entrances is operated by these high-voltage electric operators. They use a motor-operated, worm-driven gearhead powered by control circuits of 12, 48, 125, or 250 v dc, or 120 or 240 v ac. Hand crank permits manual operation. The 40:1 reduction ratio gearhead drives the load interrupter through a chain and sprocket drive. Travel is controlled by limit switches. • **S&C Electric Co.**, 4435 N. Ravenswood, Chicago 40, Ill.

For more details circle **NED-774 B1** on enclosed inquiry slip

THREE FEET OR A MILE LONG

The Ver-T-Bench



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A truly DeLuxe assembly unit.

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More storage space for finished work

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For more details circle NED-775 B1 on enclosed inquiry slip

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NEW POWER
NEW SAFETY

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For more details circle NED-776 B1 on enclosed inquiry slip

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. . . positive vibration control at lowest cost

- Easily installed without cement or bolts
- For leveling, shim between top and bottom pads
- Vinyl impregnated cork and sisal resists oils, alkalies and acids
- Machines held firmly in place — no "walking"
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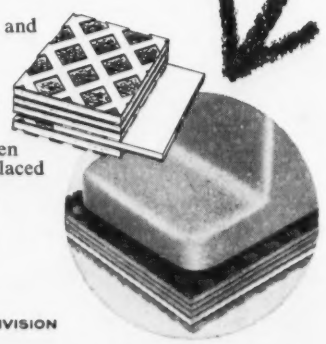
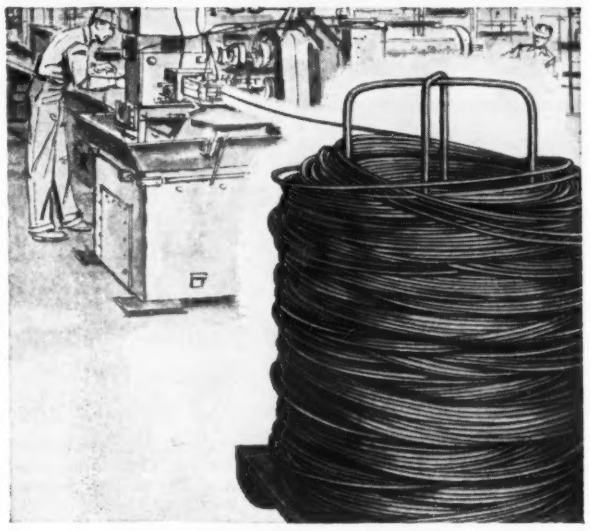


Write for full information and sample.

Air-Loc® DIVISION
Clark, Cutler, McDermott Company
5 WEST CENTRAL ST. • FRANKLIN, MASS.

For more details circle NED-777 B1 on enclosed inquiry slip



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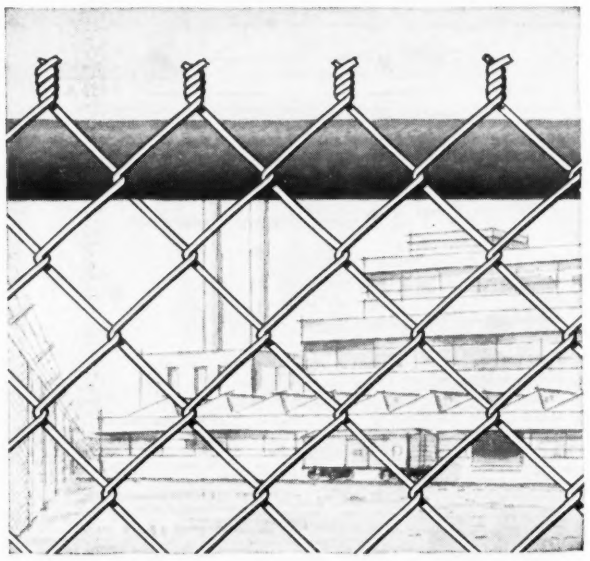
Packaged for your production

These new Stem-Paks® are especially useful for continuous operations. Hold from 500-1000 pounds of wire in one coil. Large variety of styles, types and finishes available. Write for Wire Bulletin W-212 on Stem Paks. 7669

For more details circle NED-778 B1 on enclosed inquiry slip



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The fence that says stop

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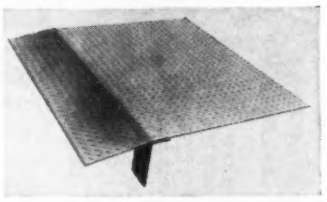
For more details circle NED-779 B1 on enclosed inquiry slip

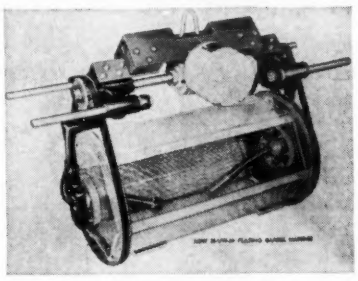
ALUMINUM DOCKBOARD
in 1900 to 5000-lb load capacities



Axle load capacities from 1900 to 5000 lb are provided by seven different sizes of aluminum dockboards which weigh only one-third as much as comparable steel units. Dockboards have nonslip safety-tread surfaces and beveled edges at both ends. Engineered bend is located in the board to keep edges of metal plate flush during loading and unloading operations. Locking leg fastened to under side of plate drops between platform and truck to anchor the unit in position. Units with 36 to 48-in. widths and 24 to 48-in. lengths weigh from 50 to 95 lb and are priced from $49.75 to $92. • **Jarke Mfg. Co.**, 6333 Howard St., Chicago 48, Ill.

For more details circle NED-781 B1 on enclosed inquiry slip

PLATING BARREL
new drive belts snap on easily



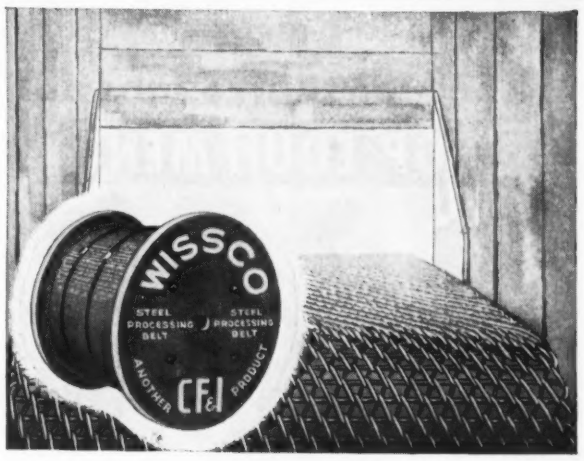
Improvements made in this plating barrel include the introduction of polypropylene barrel material. A new hanger for belt-driven cylinders allows operator to replace worn belts by merely snapping the old belt off its pulley and snapping a new one into its place. Belt pulleys are exposed and accessible. The Mercil-type ribless, one-piece molded polypropylene barrel has heat-welded joints reinforced with stainless screws. The plastic can withstand plating, cleaning, or acid dipping at temperatures to 200° F. • **Hanson-Van Winkle-Munning Co.**, Church Street, Matawan, N. J.

For more details circle NED-782 B1 on enclosed inquiry slip

WET MOPS
heads screw into mop handle

Metalcase wet mops can be changed in only 8 sec, without handling the mop head. Metal clamp which permanently holds the Oklahoma six-ply yarn screws onto mop handle. Yarn is clamped to form cushioned shoulders which act as buffers to protect furniture and baseboards. Mop spread is also increased to cover a large area. • **Pettett Mfg. Co.**, Drawer 431, Miami, Okla.

For more details circle NED-783 B1 on enclosed inquiry slip



CF&I Process-Conveying Belts
Heat and corrosion resistant

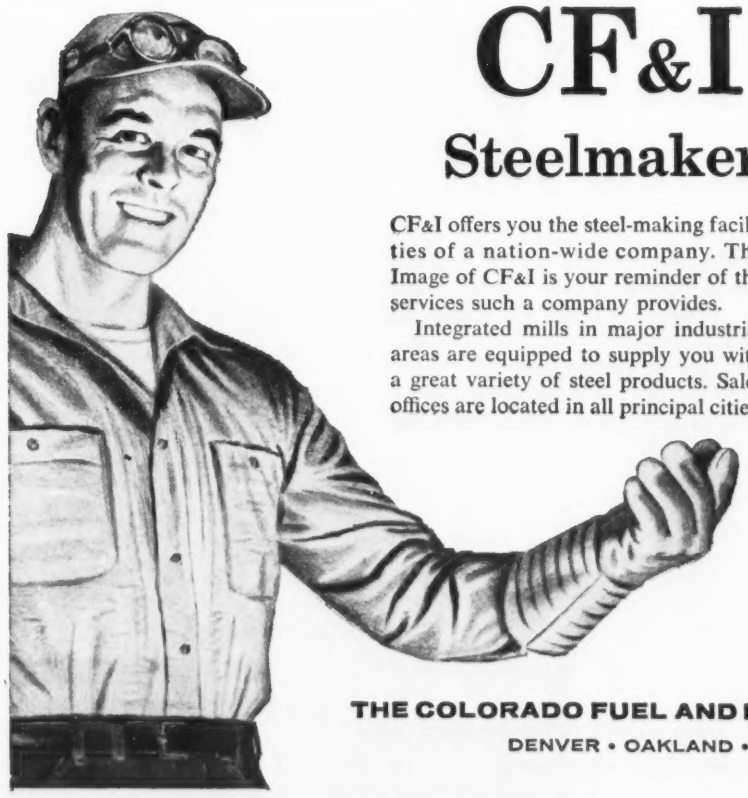
CF&I-Wissco Woven Wire Belts are made in a wide range of metals and specifications, for either friction or chain edge drive. Open-Mesh construction allows uniform circulation of air, gases or liquids. Write for Catalogs MS-606 and 607. 7671

For more details circle NED-784 B1 on enclosed inquiry slip

CF&I-WICKWIRE SPRINGS
Designed to your specifications

CF&I engineers will help you design the correct spring for any application. Compression, Extension, Torsion, Flat, Special. Get details in *Catalog S-500.* 7501

For more details circle NED-785 B1 on enclosed inquiry slip



CF&I
Steelmaker for Industry

CF&I offers you the steel-making facilities of a nation-wide company. The Image of CF&I is your reminder of the services such a company provides.

Integrated mills in major industrial areas are equipped to supply you with a great variety of steel products. Sales offices are located in all principal cities.

Over 40 well-stocked warehouses from coast to coast assure quick and efficient delivery on all orders.

For an outline on the range and diversification on CF&I Steel Products, write for Catalog G-50 Rev. For more direct service and information, contact your local CF&I sales office.

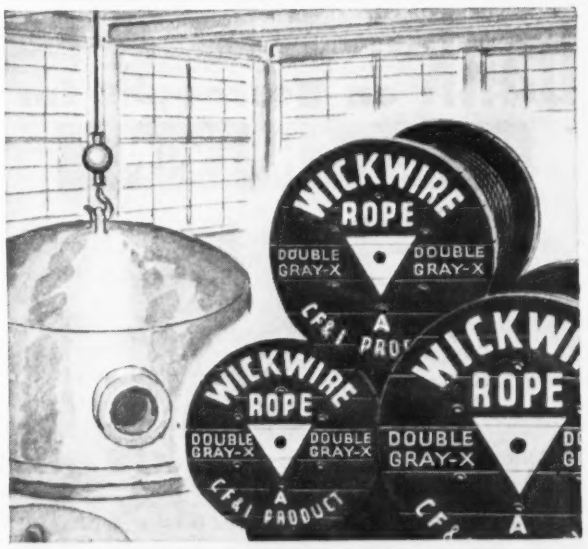
Plants at: Pueblo, Colo. • Oakland and South San Francisco, Calif. • Buffalo, N. Y. • Palmer, Mass. • Birdsboro, Pa. Roebling, N. J. • Trenton, N. J.

7500

THE COLORADO FUEL AND IRON CORPORATION

DENVER • OAKLAND • NEW YORK

For more details circle NED-780 B1 on enclosed inquiry slip



CF&I-WICKWIRE WIRE Rope
New discovery lengthens rope life

Double Gray®-X developed from CF&I's extra-strong Double Gray®, has a *significantly longer service life.* Get further information in CF&I's "Advance Progress Report". For details and performance data on all Wickwire Ropes, write for catalog WR-704. 7669

For more details circle NED-786 B1 on enclosed inquiry slip

bank on Borroughs for SHOP EQUIPMENT

Rigid construction, modern design and up-to-the-minute features make Borroughs Steel Shop Equipment one of America's most popular lines. Units included are work benches, tool stands, utility carts, shop desks and tables, as well as portable and semi-portable work bench kits and a wide selection of accessories. Yes, Borroughs can meet all your shop equipment requirements.

send for catalog!

BORROUGHS MANUFACTURING COMPANY OF KALAMAZOO
A SUBSIDIARY OF THE AMERICAN METAL PRODUCTS COMPANY OF DETROIT
3072 NORTH BURDICK ST. amp® KALAMAZOO, MICHIGAN

▲ For more details circle **NED-788 B1** on enclosed inquiry slip ▲

NEW, COMPACT AIRETOOL PNEUMATIC SCREWDRIVER BOOSTS PRODUCTION

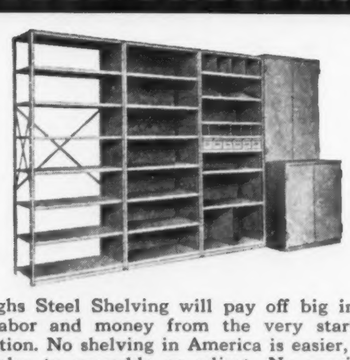
Newest addition to Airetool's line of air powered production tools, the lever operated 300 Series Reversing Screwdriver and Nutsetter is ideal for assembly and fabrication of plastic, wood and metal components. Lightweight . . . perfectly balanced . . . easy to handle . . . cuts operator fatigue and boosts sustained production. Easy-to-adjust cap screw locks firmly in reverse or forward positions. Available with adjustable clutch for precision work or positive clutch for long, free running and short drive. Quick, easy changeover from screwdriver to nutsetter. Write for Bulletin 69.

AIRETOOL MANUFACTURING COMPANY
SPRINGFIELD, OHIO
30 years experience in pneumatic tools

Branch Offices: New York, Chicago, Tulsa, Philadelphia, Houston, Baton Rouge
Representatives in principal cities of U.S.A., Canada, Mexico, South America, England, Europe, Puerto Rico, Italy, Japan, Hawaii
European Plant: Vlaardingen, The Netherlands
Canadian Plant: Brantford, Ontario

▲ For more details circle **NED-789 B1** on enclosed inquiry slip ▲

bank on Borroughs for STEEL SHELVING



Borroughs Steel Shelving will pay off big in saving time, labor and money from the very start of its installation. No shelving in America is easier, quicker or simpler to assemble or adjust. No special tools needed. Shelves adjustable without nuts or bolts. Every unit is complete in itself, and can be moved without affecting adjacent units. Get the whole story before you buy.

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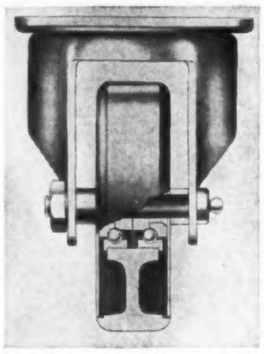
A SUBSIDIARY OF THE AMERICAN METAL PRODUCTS COMPANY OF DETROIT
3072 NORTH BURDICK ST. amp® KALAMAZOO, MICHIGAN

▲ For more details circle **NED-790 B1** on enclosed inquiry slip ▲

SHIELDED CASTER
will not entangle with threads, lint



Suited for use in textile plants and other areas in which thread, lint, fabric, fibers, and similar materials are encountered, Series 61 swivel and Series 38 rigid casters are tangleproof. Extra wide spacer washers allow thread and lint to fall freely through the horn, and any accumulated material is readily cleaned out. Improved thread guards have no recesses to catch thread or fibers. Close fit is added protection. They have pressure lubricating fittings and zinc plated metal parts. • **Bassick Co.,** 3045 Fairfield Ave., Bridgeport 5, Conn.

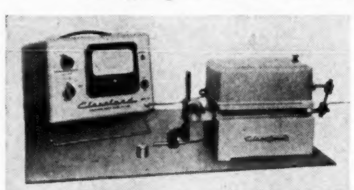
▲ For more details circle **NED-791 B1** on enclosed inquiry slip ▲

DRUM STACKING TRUCK
lifting heights range to 130 in.

Drum handling attachments are now available for use on all Crown fork trucks, including manual and power propelled models. Illustrated Model WT-90 is rated 1000 lb with a 90-in. lifting height and 50 in. of free lift for stacking drums three high. Both telescopic and fixed mast type drum handling lifts are offered with lifting heights from 54 to 130 in. • **Crown Controls Co.,** 40-44 Washington St., New Bremen, Ohio.

▲ For more details circle **NED-792 B1** on enclosed inquiry slip ▲

ROUGHNESS METER PICKUPS
design permits use in small areas



One of three skidless pickup models for measuring surface finishes in extremely small areas with Cleveland roughness meters, Model BK 3922F precision slide generates its own reference line. Mechanical coupling to a Model BK 3911 Power Trace gives controllable combination stroke adjustments in lengths from 0.005 to 1½ in. Surfaces of less than 1 microinch can be measured. Model MP 0002SL general purpose skidless pickup makes measurements within 0.020 in. of a shoulder on small ID and OD, flanges, thread flanks, and gear teeth. This unit and the Model MP6100SL groove bottom skidless pickup must also be used with the Power Trace unit. The groove bottom pickup measures surfaces behind flanges or shoulders. • **Cleveland Instrument Co.,** 6220 E. Schaaf Rd., Cleveland 31, Ohio.

▲ For more details circle **NED-793 B1** on enclosed inquiry slip ▲

SPAN & ZERO RECORDER
requires no external calibrating

Zero and span settings made on calibrated dials of this three-dial recorder make possible measuring the unkown by changing dial settings without time-consuming calibration. Span and zero setting accuracy are within ½ per cent of set value. One millivolt span and one second cross chart speed are standard, as is the zener diode constant voltage source. The three adjustments to be made are calibrated span vernier, calibrated zero vernier, and an arbitrary amplifier gain control. Zero vernier provides any value from 0 to 50 mv of suppression for exact settings. Span is continuously adjustable from 1 to 20 mv. Swing-away chassis design permits easy access for service. • **Barber-Colman Co.,** Wheelco Industrial Instruments Div., Rockford, Ill.

▲ For more details circle **NED-794 B1** on enclosed inquiry slip ▲

TORIT DUST COLLECTORS STOP LOSSES CAUSED BY DUST

Torit Cyclone Separator Model. High efficiency collection of all types of dust, chips and shavings. Up to 95% of the dust is removed from the air, drawn into the top of cone by centrifugal force, and settled to the dust reservoir below. Clean air is exhausted outside the building or indoors through after filters.

Self contained, compact, portable steel units. End mounted motor and blower mounted in free air for cool operation, is detachable for servicing or relocation of outlet. Cones can be rotated for proper inlet location. Dust reservoir has pull-out drawer for easy cleaning. Individual capacities range up to 6500 cubic feet per minute. Larger units are built on special order.
Prices start at $335.

- *machine wear*
- *absenteeism*
- *product damage*

With a Torit Dust Collector, machines stay clean, hold close tolerance up to 80% longer. Dust is kept off bedways, slides, and bearing surfaces. There are fewer accidents because work areas are clean and safe. Employees work more efficiently in clean air, their health protected. And there is no dust in the air to harm fine product finishes.

* For a FREE handbook detailing specifications and performance data of Torit Dust Collectors and applications, write Dept. 230

TORIT MANUFACTURING CO.
1133 Rankin St. • St. Paul 16, Minn.

▲ For more details circle **NED-795 B1** on enclosed inquiry slip ▲

WEATHER Fair, Mild — T-J TOMKINS-JOHNSON TRIBUNE ★★★★★ FINAL

THE TOMKINS-JOHNSON CO. • 2425 W. Michigan Ave. • Jackson, Michigan

INCREASED PRODUCTION... CREATES PRICE ADJUSTMENT
on T-J Squair Head Cylinders

JACKSON, MICH. JAN. 3 (TP)—"Due to the tremendous initial response and the continuing acceptance and purchase of the new Tomkins-Johnson Squair Head Cylinders, it has been possible to *lower* the basic price," according to T-J personnel. In effecting this price cut, Tomkins-Johnson has again proven that acceptance of a quality product and the inevitable increase in manufacturing volume *CAN* economically justify a price reduction *WITHOUT* jeopardizing quality.

The T-J Squair Head Cylinder, an interchangeable air cylinder for any pneumatic power application, was first introduced by Tomkins-Johnson in 1958. It was an immediate success because of its availability in a wide range of bore sizes and strokes . . . as well as the standard quality features, including the new T-J Super-Cushion for air cylinders.

Other Standard Features

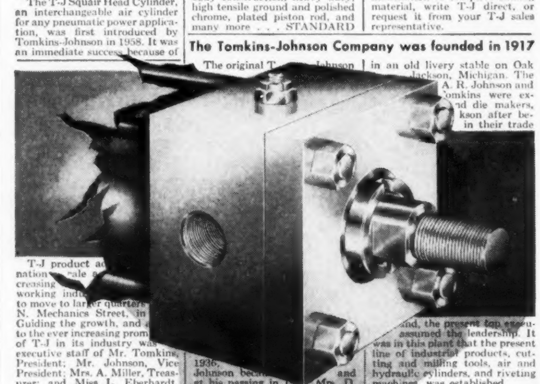
Other standard T-J features that allow the T-J Squair Head Cylinder to retain its high quality comparison over other makes of air cylinders and still give you lower price are; solid steel heads and mounting plates, hard-chrome plated bodies and piston rods, leak-proof cylinder head to body construction, heavy duty, high tensile ground and polished chrome, plated piston rod, and many more . . . STANDARD AT NO EXTRA COST.

Tomkins-Johnson, by virtue of the announced lower cost on its Squair Head Cylinder, wish to thank their customers for their initial acceptance which has been such a contributing factor in this price reduction.

T-J Produces Complete Line

Tomkins-Johnson also produces a complete line of hydraulic and pneumatic cylinders for *EVERY* power drive application . . . including the very popular Spacemaker. If you need further information or complete catalog material, write T-J direct, or request it from your T-J sales representative.

The Tomkins-Johnson Company was founded in 1917

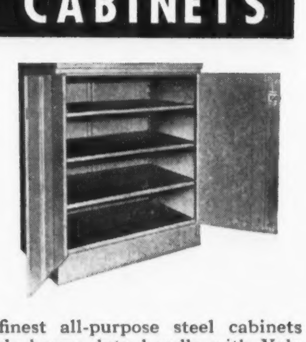


The original T... Johnson ... in an old livery stable on Oak ... Jackson, Michigan. The ... A. R. Johnson and ... omkins were ex... nd die makers, ... kson after be... in their trade ... T-J product a... nation... creasing ... working ind... to move to larger quarters ... N. Mechanics Street, in ... Guiding the growth, and ... to the ever increasing prom... of T-J in its industry was ... executive staff of Mr. Tomkins, President; Mr. Johnson, Vice President; Mrs. A. Miller, Treasurer; and Miss L. Eberhardt. ... 1936, Johnson bec... and at his passing in ... Mrs. D. ... and, the present top executive assumed the leadership. It was in this plant that the present line of industrial products, cutting and milling tools, air and hydraulic cylinders, and riveting machines, was established.

▲ For more details circle **NED-796 B1** on enclosed inquiry slip ▲

bank on Borroughs for STEEL CABINETS

42" and 78" swinging door



Here's one of the finest all-purpose steel cabinets available today. Single heavy duty handle with Yale & Towne built-in lock. Doors have 3-point latching and swing completely open. Shelves adjustable without nuts or bolts. Cabinets are 36" wide, 21" deep. The 78" model comes in 3 different styles. Before you buy any new cabinets — of any kind — learn all about the Borroughs line.

send for catalog!

BORROUGHS MANUFACTURING COMPANY OF KALAMAZOO
A SUBSIDIARY OF THE AMERICAN METAL PRODUCTS COMPANY OF DETROIT
3072 NORTH BURDICK ST. amp® KALAMAZOO, MICHIGAN

▲ For more details circle **NED-797 B1** on enclosed inquiry slip ▲

LESS FLARE • FASTER CUT • LONGER LIFE Save time and money on *heavy-duty cleaning jobs* — remove weld scale, rust, corrosion, old paint faster with new Osborn KEB Power Brushes. Unique new *steel bridle* design reduces flare, increases cutting power. And bridle is easily removed after partial wear for extra brush life. Special analysis steel wire fill withstands severe, high speed service. Write or call for details. *The Osborn Manufacturing Co., Dept. N-23, Cleveland 14, Ohio. Phone ENdicott 1-1900.*

FREE DATA — Write for Bulletin 334. Gives full description, range of sizes, useful application data on Osborn KEB Brushes for your toughest cleaning jobs.

Industrial Brushes
Metal Finishing Machines
. . . and Finishing Methods
Foundry Production Machinery

OSBORN

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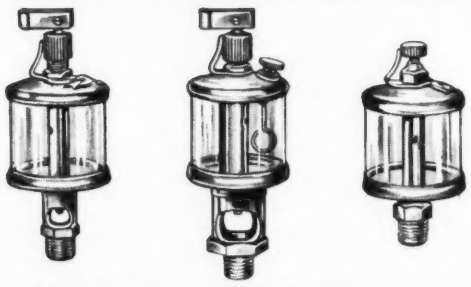
Immediate Delivery!



Glass Body Oil Cups.

You can fill all your Oil Cup requirements from Swift's complete stocks. Swift Glass Body Oil Cups have polished brass finishes and tough, heat- and stain-resistant Pyrex glasses. Standard sizes are always available for immediate delivery.

Sight Feed and Plain Glass Oil Cups. For gravity-feed oiling of bearings and other points where no back pressure exists. Spring-loaded slide opening on lid keeps dust and dirt from bowl.

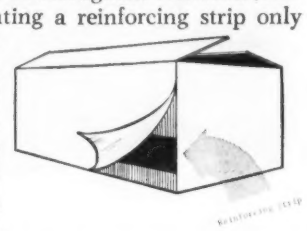
Gas Engine Lubricators. For gravity-feed of oil against pressure in gas engines, blowers, vacuum pumps, low pressure air pumps.

SWIFT *Glass Division*
SWIFT LUBRICATOR COMPANY, INC.
5 Glass St., Elmira, N.Y.

▲ For more details circle **NED-799 B1** on enclosed inquiry slip ▲

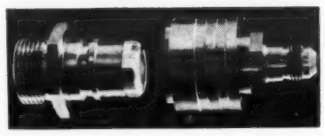
CORRUGATED CONTAINER
strip-reinforced only where needed

Instead of increasing the weight of the entire package, the Armor-Gard technique of corrugated container constructions calls for laminating a reinforcing strip only where it is needed. Strip is located between the corrugating medium and outer liner. Technique reduces the amount of board needed to achieve adequate package strength. Tests show that strip reinforcement increases burst strength by 60 per cent and puncture resistance by 48 per cent. • **Olin Mathieson Chemical Corp.**, Packaging Div., 460 Park Ave., New York 22, N. Y.



▲ For more details circle **NED-801 B1** on enclosed inquiry slip ▲

QUICK-CONNECT COUPLING
joined with minimum of air in line

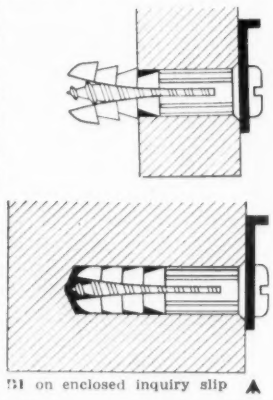


Small, lightweight Trigger Lock Series 17 quick-connect couplings for fluid systems have a minimum of leakage when disconnected and entrap a minimum of air or foreign matter when connected. Joining and parting is by push-pull action. Flow cannot take place until a perfect seal is obtained and all entrapped air is forced out. Coupling can be equipped with a squib, solenoid, pressure, or other power signal device for remote control. It can also be adapted for break-away action. It will handle hydraulic, exotic fuel, and other fluids up to 3000 psi. Sizes from 1/4 to 1 in. are rated at 4500 psi proof pressure; the 1 1/4-in. size is proof rated at 900 psi. • **Jack & Heintz, Inc.**, Box 6719, Cleveland 1, Ohio.

▲ For more details circle **NED-802 B1** on enclosed inquiry slip ▲

SCREW ANCHOR
can be used in any material

Made of cellulose acetate with aluminum powder added for strength, the inexpensive Screw-Plug screw anchor spreads open as the screw is driven to hold firmly in hollow walls, while in solid construction it acts as an expansion wedge. Easily installed in a drilled hole, the anchor is made in five sizes for No. 6 to 10, 10 and 12, 12 and 14, 14 to 18 screws and for 3/8-in. lag screws. Lengths range from 3/4 to 2 3/8 in. Prices range from $1.70 to $16.85 per 100. • **Ace Sycamore, Inc.**, Fastener Div., 448 DeKalb Ave., Sycamore, Ill.



▲ For more details circle **NED-803 B1** on enclosed inquiry slip ▲

REPAIR FOR YOUR B&D TOOLS

Check the Yellow Pages under "Tools-Electric" for the location of the nearest Black & Decker factory service branch or authorized service station.

Free tool inspection when requested • Genuine B&D parts used • Factory-trained technicians • Standard B&D Guarantee at completion of recommended repairs • Fast service, reasonable cost, always.

Or write for address of nearest of more than 50 branches and service stations to: THE BLACK & DECKER MFG. Co., Dept. 1902-S, Towson 4, Md.

Black & Decker
QUALITY TOOL SERVICE

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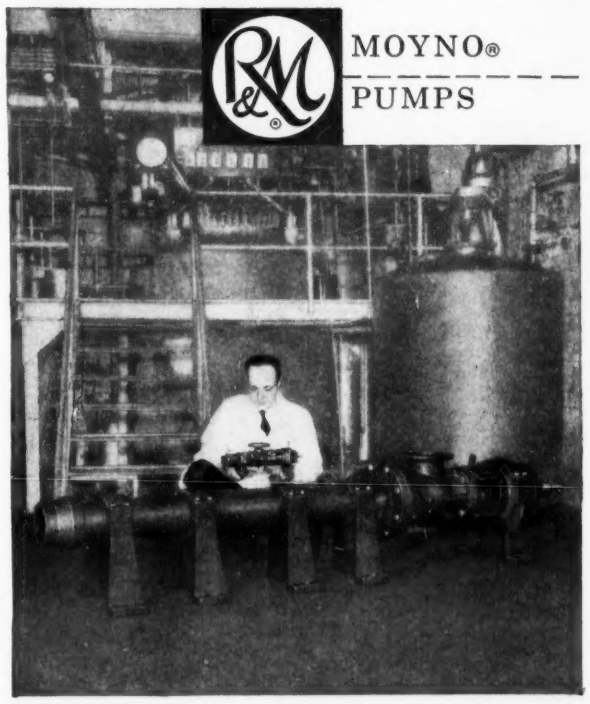


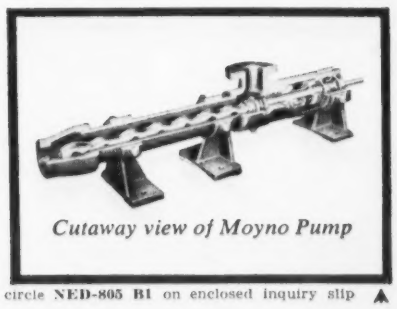
MOYNO® PUMPS
capacities: from 1/100 to 500 gpm
pressures: up to 1000 psi

MOYNO pumps are available in nine sizes with capacities ranging from minimum metering flow to 500 gpm and pressures from zero to 1000 psi. Positive displacement delivers uniform discharge without pulsation, agitation or turbulence. Solutions ranging from thin watery slurry to extremely viscous paste, corrosives, abrasives and even solids in suspension are economically handled without excessive pump wear.

MOYNO's unique *"progressing cavity"* principle with only one moving part and special resistant internal parts slashes pump maintenance costs on problem materials that often ruin other pumps. Almost any substance that can be forced through a pipe can be pumped by a MOYNO.

To learn how a MOYNO can cut your pumping costs, write today for Bulletin 30-NE

ROBBINS & MYERS, INC.
motors, household fans, Propellair industrial fans, hoists, Moyno industrial pumps
SPRINGFIELD, OHIO • BRANTFORD, ONTARIO


Cutaway view of Moyno Pump

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GORTITE-WAY PROTECTION

FABRICATED TO ORDER and from the newest in oil-resistant neoprene-base materials. There are no size limitations. No molds are required.
• GORTITE protects ways against chips, grit, scratching and marring . . .
• GORTITE reduces way-scrapping and down-time . . .
• GORTITE way-protection boosts production and lengthens life . . .
Other user benefits, how-to-order forms and application data for all ways, spindles and cross-rails are contained in new bulletin GW-100. For bellows, boots and sleeves ask for AH-3.

A & A Mfg. Company Inc.
712 S. 12th Street
Milwaukee 4, Wisconsin

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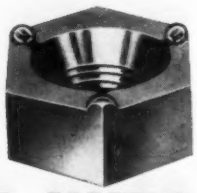
These ....2....


GRIPCO® WELD NUTS

for blind assemblies

provide easier positioning—quicker fastening—extra threaded depth—at less cost—engineered for various gauge metals. With 3 or 6 projections, with or without self-locking threads, these hexagon weld nuts provide a firm, non-rocking electrical connection during welding.

WITH GRIPCO FASTENERS YOU GET:

Service... 40 sales representatives all over the country for prompt, fast service.

Reliability... Quality controlled by the oldest established lock nut manufacturer in the U.S.

Stock... Large inventories to ensure out of stock delivery on all catalogued items.

Write for samples and NEW catalog today, or consult the yellow pages in your phone book under "GRIPCO" for the representative nearest you.

GRIP NUT COMPANY 128

Subsidiary of Heli-Coil Corporation, Danbury, Conn.

106 Maple Ave., • South Whitley, Ind. Phone: South Whitley 723-5111

For more details circle NED-806 B1 on enclosed inquiry slip

JIFFY PADDED SHIPPING BAGS

SO EASY TO PACK!

JIFFY PADDED SHIPPING BAG — the all-in-one shipping unit — provides cushioning, moisture-resistance, insulation, and heavy duty protection. Saves labor, time and materials. Handy tear-tape opener for easy removal of contents.

SO SIMPLE TO OPEN!

Send for your FREE SAMPLES today!

JIFFY MANUFACTURING COMPANY
360 Florence Avenue Hillside, N. J.

For more details circle NED-807 B1 on enclosed inquiry slip

UTICA

a revolutionary new wire stripper from

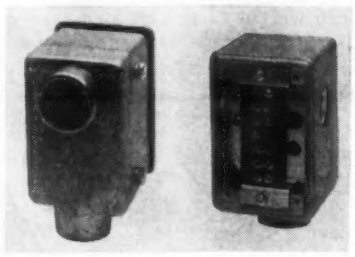
UTICA

Strip fast and clean! Eliminate nicking! Reduce insulation marking! Handle any wire size from #12 to #26 . . . and do it all with Stripwright®. . . Utica's revolutionary new wire stripper. There's never been anything like it. A lightweight, versatile, pistol-grip tool engineered for ease of handling in limited access areas and designed to the same quality standards as all other Utica tools. Write for complete information.

Utica Drop Forge & Tool Division, Kelsey-Hayes Company, Utica 4, N. Y.

For more details circle NED-808 B1 on enclosed inquiry slip

PHOTOELECTRIC EQUIPMENT
photocell reacts to 10 ft-c of light



Both the LR1 photoelectric receiver (right) and the LP1 light projector (left) of this electric eye system are contained in water, dust, and vibrationproof cast iron housings with screw-held covers. System operates in any position for counting, signalling movement, controlling conveyors and machines or for trespass alarm. Both units operate from 105-130 v ac. Relay has 5-amp single-pole double-throw contacts rated 220 v. Photocell reacts to 10 ft-c of light and is not sensitive to stray light. Receiver can be operated by a 100-w lamp at short distances, or from projector at distances up to 25 ft. Counting speeds up to 600 per minute are possible. Price of receiver is $30; of projector, $20. • **Electric Eye Enterprises,** 1935 N.W. 191st St., Opa-Locka, Fla.

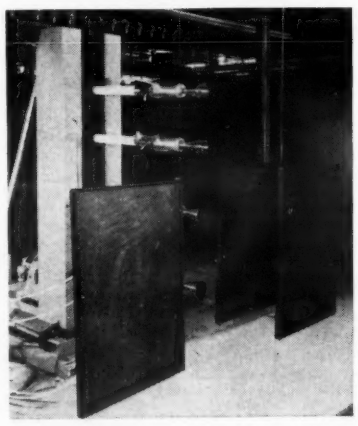
For more details circle NED-809 B1 on enclosed inquiry slip

TWO-WAY RADIO
transistorized unit weighs 20 oz

Pocket-size Duo-Com 100S two-way radio which weighs only 20 oz features squelch control to retain high receiver sensitivity and interchangeable crystals for easy changing to any of the 23 Citizens' Band channels. Unit has 11 transistors and is powered by eight penlight batteries which afford in excess of 50 hr of continuous use. The 100-milliwatt transmitter has a 5-mile range. Price is $119.50. • **Osborne Electronics Corp.,** 13105 S. Crenshaw Blvd., Hawthorne, Calif.

For more details circle NED-810 B1 on enclosed inquiry slip

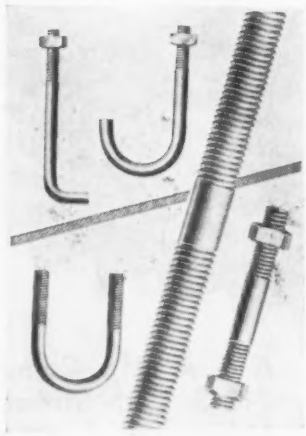
ELECTROSTATIC PAINTING DEVICE
features moving bell atomizers



Automation of production painting lines where grouping of similar parts is impractical is facilitated with this electrostatic spray painting unit which features No. 2 Electro - Spray Process moving bell atomizers. As the size of the articles to be painted changes, automatic sensing devices reposition the bells in and out to maintain correct painting distance. Paint is triggered on and off automatically by a metering valve to accommodate variations in length and spacing of articles on the line. Changes in height of work patterns are handled by turning bells on and off selectively. • **Ransburg Electro-Coating Corp.,** Box 23122, Indianapolis 23, Ind.

For more details circle NED-811 B1 on enclosed inquiry slip

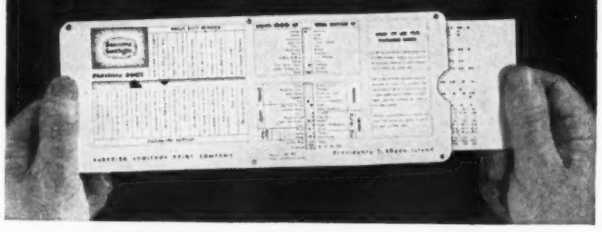
THREADED ROD & BOLTS
small quantities delivered quickly



Off-the-shelf delivery of even small quantities of studs, threaded rod, J and U-bolts, anchor bolts, and similar fasteners is assured by company's new service. Fasteners are available in stainless steel, carbon and alloy steel, bronze, Monel, aluminum, and other metals. Any size and length can be made to specification. • **Star Stainless Screw Co.,** 694 Union Blvd., Paterson 2, N. J.

For more details circle NED-812 B1 on enclosed inquiry slip

FREE "SLIDE GUIDE"



...new aid to paint buyers!

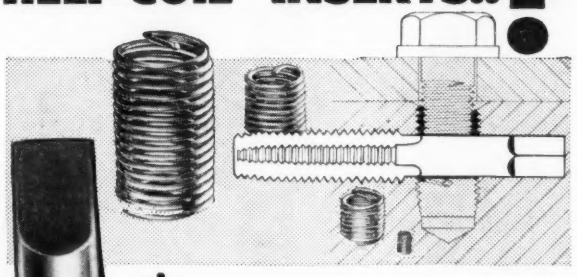
This new and unique quick reference guide to Barreled Sunlight Engineered Exterior and Interior Paints is sent *free on request.* Handy "slide rule" indicator pinpoints the answers to scores of questions on available finishes, colors, thinners and primers . . . also provides valuable data on recommended surface applications, special resistance features, drying time and square-foot coverage per gallon on over 40 different finishes. Measures only 10" x 4" to fit pocket . . . has space for owner's name. Write Barreled Sunlight Paint Company, 130-B Georgia Avenue, Providence 5, Rhode Island.

Barreled Sunlight ENGINEERED® Paints

FOR A BETTER LOOKING, LONGER LASTING PAINT JOB AT LOWER COST

For more details circle NED-813 B1 on enclosed inquiry slip

TAPPING FOR HELI-COIL* INSERTS..?



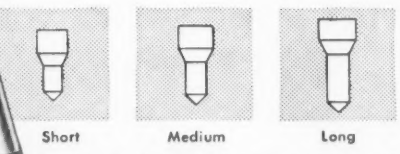
* Heli-Coil* inserts — a precision-formed coil of durable diamond-shaped wire that lines the tapped hole and presents a stronger, more accurate standard internal thread for the screw or stud.

... MOHAWK STANDARD SUBLAND DRILLS can save you TIME, TOOLS and $ $

Mohawk Subland Drill-Chamfer "Standards" will streamline those all-important hole drilling operations prior to tapping, by combining both drilling and chamfering into *one* simple, simultaneous one-tool application.

Why chamfer? Because clean, concentric chamfered holes speed tapping, increase tap life and insert accuracy, eliminate breakage, burring or flaking—and lower drilling, tapping and scrap costs.

Mohawk "Standards" are faster and economical to use. They outlast *ordinary* tools, yet remain accurate through regrinds right down to the shank. Better yet, they are available—everywhere!



STANDARD SUBLANDS are stocked in all practical sizes and combinations in 3 step lengths, 3 shank styles.

REMEMBER, TOO . . . Mohawk Standard Subland Drills are also immediately available in Drill-Counterbore and Drill-Drill Types. All practical sizes, step lengths and shank styles.

*REG. U. S. PAT. OFF.

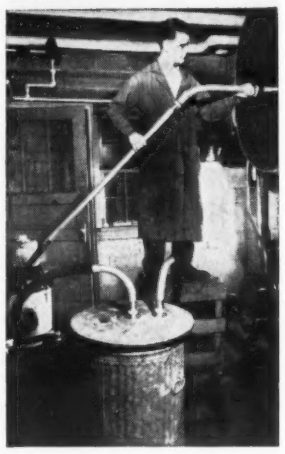
Mohawk TOOLS, Inc.
Montpelier, Ohio

world's largest producer of Subland Drills

For more details circle NED-814 B1 on enclosed inquiry slip

How to save up to 20% on fuel

$117.50 Kit adapts any industrial vac for flue and furnace cleaning



● U. S. Dept. of Commerce says: "A ¼ inch coating of soot in a furnace cuts its efficiency in half. A ⅛ inch coating makes it ⅓ less efficient."

A 20% saving is actually a conservative guess of what the Multi-Clean ADD-A-TANK can save you in fuel bills.

ADD-A-TANK fits any industrial vacuum cleaner. Use it with a standard 30 gallon or smaller ash can to add extra capacity and keep messy ashes and soot out of vac. Efficient, economical, and a big time saver in cleaning flues, picking up ashes and other bulky materials.

No explosion risk

Do safety precautions prevent use of ordinary industrial vacs? The ADD-A-TANK is your answer. Use it safely in the danger area while you keep the vacuum cleaner safely outside.

For Boiler Flues . . . Chimneys . . . Furnace Fire Boxes . . . Elevator Pits . . . Explosion-Hazard Areas

Only $117.50

Includes complete cover plate assembly, special flue cleaner tool, 10'—1½" black hose, two 4' extension handles, 2' flex joint, three right angle connectors, 8" adjustable wire brush tool.

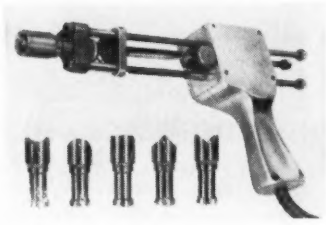
MULTI-CLEAN *Method*

For further information, write

MULTI-CLEAN PRODUCTS, Inc. Dept. NE-3-21, 2227 Ford Parkway, St. Paul 16, Minn.

▲ For more details circle **NED-815 B1** on enclosed inquiry slip ▲

ELECTRIC ARC GUN
welds, burns holes, forms rivets



When connected to alternating or direct-current welding machine power supply, this Six Shooter electric arc gun will, in a single downward thrust, burn a hole in two or more pieces of metal with a total thickness up to ¼ in. As hand pressure is released, a spring moves the gun upward and a rod melts to fill the hole with a strong, sound weld. Complete arc penetration produces a hole or rivet, whereas partial arc penetration can produce a stud, spot, tack, or button weld, as required. Gun needs no back-up electrode and operates with all-iron powdered rod. Removable, special-shaped nozzles reach hard-to-get-at places. Unit lists for $59; with set of five nozzles, for $99. ● **Beeco Mfg. Corp.**, Box 116, Cranford, N. J.

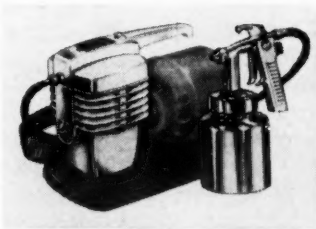
▲ For more details circle **NED-818 B1** on enclosed inquiry slip ▲

LIGHTWEIGHT BOOTS
two sizes fit all feet

Weighing only 9 oz, storable in 175 cu in., and made of pure gum rubber, these utility boots stretch easily to fit all styles of men's shoes. Only two sizes are needed for Size 8 to 12½ shoes. Boots are washable by hand or in laundry equipment, and they dry instantly, ready for reuse. Nonskid safety soles are reinforced with So-Lo-Prene rubber for long service. ● **So-Lo Marx Rubber Co.**, Loveland, Ohio.

▲ For more details circle **NED-819 B1** on enclosed inquiry slip ▲

SPRAY OUTFIT
for paint, calcimine, insecticides

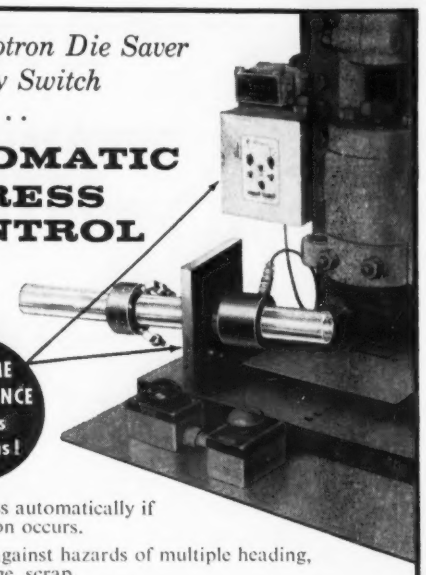


Working pressure of 25 psi is developed by the portable Speedy Sprayer when directly driven by any ¼-hp motor having a ½-in. shaft. Developed to atomize thoroughly many types of materials, including paint, calcimine, and insecticides, it has an oversize diaphragm which insures clean, oil-free air. The No. 680 portable outfit is offered with No. 212 gun, 10 ft of hose, and tire chuck. Price is $29.50 without motor. ● **W. R. Brown Corp.**, 2701 N. Normandy Ave., Chicago 35, Ill.

▲ For more details circle **NED-820 B1** on enclosed inquiry slip ▲

New Robotron Die Saver Proximity Switch provides . . .

AUTOMATIC PRESS CONTROL



FULL TIME SURVEILLANCE of Press Operations!

- Stops press automatically if malfunction occurs.
- Protects against hazards of multiple heading, die damage, scrap.
- Keeps presses operating efficiently and profitably *with limited supervision.*
- Increases output . . . reduces rejects.

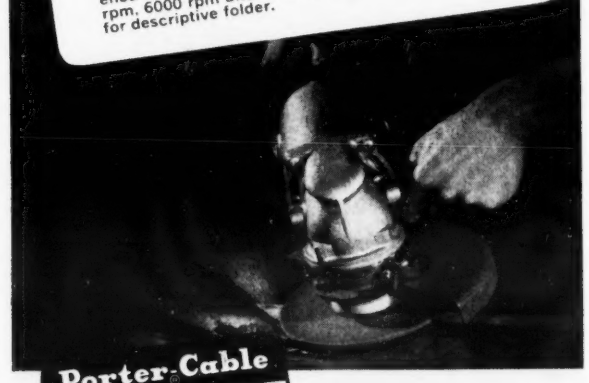
Write for Bulletin 27-B Today!

Robotron® CORPORATION
21302 WEST EIGHT MILE ROAD • DETROIT 19, MICH.

▲ For more details circle **NED-821 B1** on enclosed inquiry slip ▲

For the tough jobs
PORTER-CABLE
SANDER-GRINDERS

Engineered and powered to meet the demands of industrial operations . . . for blending and finishing all kinds of steel and alloys, cleaning weld spatters and castings, removing rust and scale, cutting metal. Extra heavy duty motors for greater efficiency, longer life . . . magnesium alloy housings for extra toughness and lightweight . . . extra large ball bearings . . . hardened spiral bevel gears. Available in 3 models: 5300 rpm, 6000 rpm and 5000 rpm with 15° tilt head. Write for descriptive folder.



Porter-Cable *Quality Power Products*

PORTER-CABLE MACHINE CO.
1122 Marcellus St., Syracuse 4, N.Y.

▲ For more details circle **NED-816 B1** on enclosed inquiry slip ▲

YARWAY PRESENTS A RADICAL ADVANCE IN STEAM TRAP DESIGN

SERIES 130 Yarway Impulse Steam Trap combines a steam trap, strainer and blow-down valve *all* in one small compact unit.

Series 130 gives you these advantages:

- Saves space
- Saves installation costs
- Saves weight
- Saves on maintenance

Stainless steel construction, good for all pressures 8 to 600 psi. Ideal for steam main drips, small presses, steam tracer lines, meter boxes, etc. See your nearby Yarway distributor, or write for new bulletin T-1743-B.

YARNALL-WARING COMPANY
100 Mermaid Ave., Philadelphia 18, Pa.

▲ For more details circle **NED-822 B1** on enclosed inquiry slip ▲

NEW 16 Oz. Can Contains 33⅓% More Kover No Increase in Price

REYNOLDS
Instant Dry-Waterproof
STENCIL-KOVER

Blocking Out the Old Marking

Specially Formulated Obliterating Fluid, Tan Colored to Match Corrugated Cartons

1) Covers over and blocks out old stenciling, labels, printing, markings, etc. Permits re-stenciling on a fresh, clean surface.
2) Quick, easy way to correct stenciling errors.
3) Permits salvaging over-runs of printed cartons.

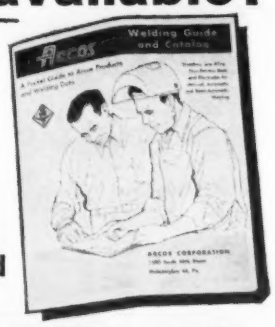
Send for Bulletin No. 601 Today. It gives full details about Reynolds Stencil-Kover, also Reynolds Stencil Ink, Reynolds Layout Fluid and Special Products.

Re-Stenciling on the Clean Surface

REYNOLDS INK, Inc.
2077 *East 65th Street* • *Cleveland 3, Ohio*

▲ For more details circle **NED-817 B1** on enclosed inquiry slip ▲

now available!



new pocket guide and catalog for better welding results

Nothing like it! Pocket size. Complete data on selection of rods and electrodes for welding stainless, low alloy, non-ferrous and light metals. Gives facts on applications, currents, preheating, annealing, AWS/ASTM classifications. Special sections on How to Get Better Stainless Welds, and Effect of Alloying Elements on Weld Metal. Comprehensive list of valuable technical data available. FOR FREE COPY write ARCOS CORPORATION, 1500 South 50th Street, Philadelphia 43, Pa.

ARCOS | Filler Metal Specialists

▲ For more details circle NED-823 B1 on enclosed inquiry slip ▲

How to select the correct VARIABLE SPEED DRIVE

Get your FREE copy now!

Complete description and engineering data on the Cleveland Speed Variator.

This unique variable speed drive gives you infinitely variable, stepless speeds up to 9:1 (from ⅓ to 3 times input speed). Precise adjustment gives instant, smooth speed change by manual, automatic or remote control.

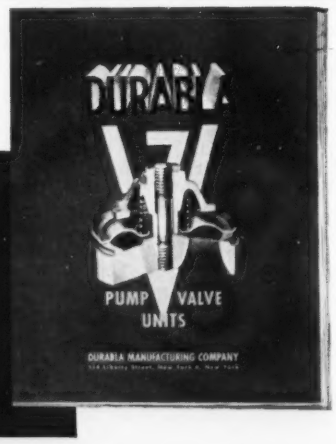
Simple construction, compact, quiet running. No belts or complicated linkage.

Thousands already in use. Write for Bulletin K-200.

CLEVELAND WORM & GEAR DIVISION
Eaton Manufacturing Company
3283 East 80th Street • Cleveland 4, Ohio

▲ For more details circle NED-824 B1 on enclosed inquiry slip ▲

DATA you need



to select improved valves for your pumps

Famous for sustained efficiency under widely varied service conditions, DURABLA Pump Valve Units have been redesigned to incorporate a new taper-lock* stud, self-locking nut and drop-on guard. This improved design offers *seven new points of superiority.*

The booklet shows how DURABLA Pump Valve Units can benefit your pumps. Includes design details, materials available, table of seat sizes and dimensions. Send for free copy of Form 400 NED20.

DURABLA MANUFACTURING COMPANY
114 Liberty Street, New York 6, N. Y.

DURABLA®

*Patent Pending DM-29

▲ For more details circle NED-825 B1 on enclosed inquiry slip ▲

New Literature and Catalogs

Motor Maintenance Methods & Equipment

Associated Research, Inc.—Maintenance practices to predict and prevent motor and electrical equipment failure are subject of 52-page Manual D-62. It highlights instruments for voltage breakdown tests and measurement of insulation leakage at high voltage. Procedures for predicting life of motor and generator insulation, and testing for breakdown of cable installations are described.

▲ For more details circle NED-826 B1 on enclosed inquiry slip ▲

Numerically Controlled Turret Drill

Cincinnati Lathe & Tool Co.—The Cintimatic numerically controlled six-turret drill for completely automatic drilling of a wide range of work is designed for quick and simple setup with a minimum of jig and fixture requirements. The Acramatic console controls work table positioning, tool selection, feed, spindle speed, hole depth, and tapping cycle. Details are offered in 8-page Catalog N-260.

▲ For more details circle NED-827 B1 on enclosed inquiry slip ▲

Portable Electric Tools

Milwaukee Electric Tool Corp.—Line of portable electric tools covered in Catalog G20 includes heavy-duty drills, circular saws, chain saws, shears, the Sawzall, sanders, grinders, generators, hammers, nut runners, polishers, and diamond core drilling equipment, as well as a line of tool accessories.

▲ For more details circle NED-828 B1 on enclosed inquiry slip ▲

Infrared Photoelectric Control

Cramer Controls Corp., Electronics Div.—The Infrabeam infrared photoelectric control functions by reflected or interrupted beam over an extremely long range, even under high general light conditions. Typical materials handling, counting, inspection, and control installations are covered in descriptive 8-page Bulletin IB-2.

▲ For more details circle NED-829 B1 on enclosed inquiry slip ▲

Chemical Resistant Plastic Panels

Resolite Corp.—Resolite CR Panels of special glass fiber-reinforced polyester resin resist the attack of severe chemical environments. Applications for this construction material are shown in 8-page file Bulletin 26-A-9. A list of chemicals which panel material resists is provided.

▲ For more details circle NED-830 B1 on enclosed inquiry slip ▲

Circular Saw Safety

Brett-Guard Corp.—A safety method to end circular saw accidents is subject of 6-page booklet. Method involves use of a Plexiglas guard that fits all rip saws. It covers the saw blade, yet allows full vision and complete accuracy in dadoing, diagonal sawing, rabbeting, and rip and long cross cutting. A 16-mm saw safety film is also offered on a free loan basis.

▲ For more details circle NED-831 B1 on enclosed inquiry slip ▲

Reinforced Plastic Molding

Hand lay-up, spray-up, matched metal die preform, premix, filament winding, and pre-preg techniques for molding thousands of reinforced plastic products are explained in 10-page booklet. Products range from pleasure boats to heat-resistant nose cones for missiles. Physical and chemical properties of molded parts are given. Write The Society of the Plastics Industry, Inc., Reinforced Plastics Div., 250 Park Ave., New York 17, N. Y.

▲ For more details circle NED-832 B1 on enclosed inquiry slip ▲

Temperature Conversion Chart

Rosemount Engineering Co.—Temperature conversion chart, printed on 8½ x 11-in. durable sheet stock and punched for 3-ring binder, permits converting from any scale—Kelvin, Rankin, Centigrade, or Fahrenheit—to any other scale. Range is from absolute zero to 16,000° C.

▲ For more details circle NED-833 B1 on enclosed inquiry slip ▲

Tap Extractors & Extensions

Walton Co.—Tap extractors, tap extensions, tool holders, and extractors for broken pipes, studs, and screws are detailed as to size and price in 8-page consumer Catalog 9870. Extractor sizes range from No. 4 through 1½ in. in two to six-flute types; extractors for pipe taps, from ⅛ to 1 in. in four and five-flute styles.

▲ For more details circle NED-834 B1 on enclosed inquiry slip ▲

Laboratory Ovens DESPATCH BUILT

FOR MORE RELIABLE DATA

500°-650°-850° 1000° MODELS
For
• DRYING
• CURING
• AGING
• STERILIZING
• ANNEALING
• TEMPERING

Versatile, rugged, accurate Despatch laboratory ovens will fit your particular needs. Available in standard models of various dimensions, each Despatch Oven guarantees automatic temperature control ± ½° C. Standard units up to 1000° F. max.; special models to 1350° F. Forced convection assures even wiping of ambient air and fast warm-up time. Gas or electricity may be used for heating. *Despatch has been serving American industry for 58 years.*

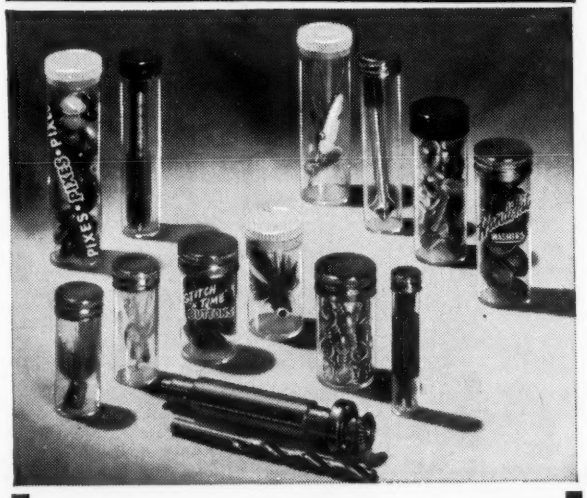
WRITE TODAY for free bulletin 203-4FJ, Laboratory ovens.

DESPATCH OVEN CO.

DESPATCH OVEN CO. 619 S.E. 8th St., Minneapolis 14, Minn.

▲ For more details circle NED-835 B1 on enclosed inquiry slip ▲

LERMER PLASTIC CONTAINERS



Exceptional printing makes the difference...

Helps make the sale!

- Printed or decorated up to 4 colors on crystal clear, transparent or opaque colors
- Also available unprinted
- Largest line of RIGID plastic containers
- 1/5 the weight of glass—greatly reducing ever-increasing shipping and handling costs
- Lightweight and shatterproof — with rigid wall protection
- Economical—with customer re-use value
- Package diamond tools, drills, gauges, ball bearings, jewels, etc.

*T. M.

Write for full-color catalog, samples and prices.

LERMER PLASTICS, INC.
514 South Avenue
Garwood, New Jersey
PIONEERS AND SPECIALISTS IN PLASTIC CONTAINERS SINCE 1919

▲ For more details circle NED-836 B1 on enclosed inquiry slip ▲

METARAYS DON'T BUST!

Maybe there's a better word . . . but none says it better. If you're using glass infrared lamps, and have a high breakage rate, here's the answer. Chromalox Metarays have unbreakable, metal-sheathed elements. Maintenance is all but eliminated. Dust, dirt, and paint dropped from parts in process are burned off by the element. Rated 120 volts, 375 to 1200 watts, Metarays create no glare . . . can be operated by automatic or manual controls.

Next time you break a glass infrared lamp, replace it with a Metaray . . . it won't bust. Write today for literature and prices.

CHROMALOX ELECTRIC HEAT
Edwin L. Wiegand Company
7509 Thomas Boulevard • Pittsburgh 8, Pa.

For more details circle **NED-837 B1** on enclosed inquiry slip

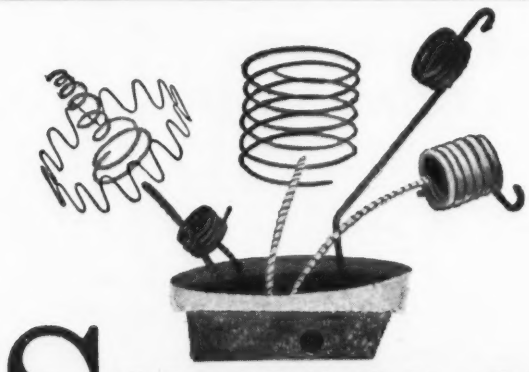
NEW ROTOR Airiter

gives world's fastest, easiest marking

There's nothing like the new Rotor *Airiter!* It marks anything . . . metal, plastic, glass, ceramic . . . parts or tools . . . as easy and fast as writing with a pen. No messy chemicals; no risky heat. Short-stroke carbide stylus makes up to 12,000 blows per minute. Speed and depth of mark easily controlled by throttle *on tool.* Will not stall while writing. Peening action . . . does not remove metal. Weighs only 5¼ ounces. Try it in your shop and see how it writes circles around other methods! Write for Bulletin AR-2.
The Rotor Tool Company, 26327 Lakeland Boulevard, Cleveland 32, Ohio. Subsidiary of The Cooper-Bessemer Corporation.

ROTOR TOOLS

For more details circle **NED-838 B1** on enclosed inquiry slip



Spring in any season

That's what you've got to have when you buy border and brace wire, zig-zag and no-sag wire, lacing wire and wire for automatic machines. This "all-seasons" quality is what you're bound to get when you get Spring Wire of any kind from Roebling.

All the qualities that make it the "nicest spring" you've ever known are there: uniformity, temper, tensile strength, size and finish. For the best of coils say "Roebling."

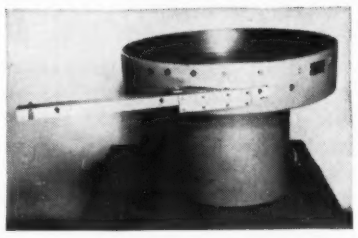
Send for details on our wide and bright array. Wire and Cold Rolled Steel Products, John A. Roebling's Sons Division, Trenton 2, N. J.

ROEBLING
Branch Offices in Principal Cities
John A. Roebling's Sons Division
The Colorado Fuel and Iron Corporation

For more details circle **NED-839 B1** on enclosed inquiry slip

PARTS FEEDER

30-in. size has variable speed



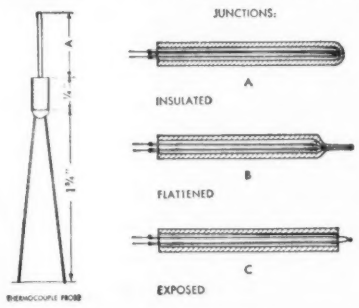
Buttons, washers, nuts, bushings, bottle caps, discs, needle and ball bearings, and many other items are fed, oriented, or counted by the Disc-O-Matic parts feeder. They are handled at speeds up to 3000 per minute. The 30-in. model can be adapted for continuous feeding of parts, for mechanical releasing of one or more parts at a time, or it can be set up for electronic counting or batching. Its variable speed drive permits it to be slowed down for gentle handling of fragile or delicate parts. An adjustable track permits quick changeover for handling of a variety of shapes and sizes. Speed is changed by handwheel while the 24-in. high unit is in operation. • **Count-O-Matic, Inc.,** 40-23½ 22nd St., Long Island City 1, N. Y.

For more details circle **NED-840 B1** on enclosed inquiry slip

MICRO-MINIATURE THERMOCOUPLES

for subzero to 3000° F applications

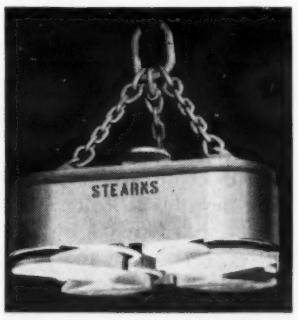
Measuring only 0.014 in. in diameter, HT micro-miniature thermocouples are available in several sheath materials and lengths. They provide means for fast, accurate temperature measurement in the range from cryogenic environments to +3000° F. Various hot junction configurations are offered for such uses as rocket fuel temperature measurement, surgery and medicine, missile skin temperatures, gas chromatography, and other fine instrumentation. • **Baldwin-Lima-Hamilton Corp.,** Electronics & Instrumentation Div., 42 Fourth Ave., Waltham 54, Mass.



For more details circle **NED-841 B1** on enclosed inquiry slip

COIL-LIFTING MAGNET

4-pole unit handles 80,000-lb coil

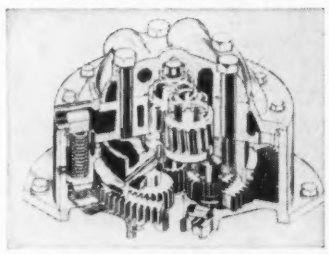


This 4-pole coil-lifting magnet is offered in sizes for safe and damage-free handling of hot or cold strip sheet steel coils weighing up to 80,000 lb. Each of unit's four poles is a separate magnet with its own Class H high temperature insulated coil. Assemblies are stainless steel enclosed and water-tight. A heavily constructed housing protects the lead-ins and waterproof terminal box. • **Indiana General Corp.,** Stearns Magnetic Products Div., 635 S. 28th St., Milwaukee 46, Wis.

For more details circle **NED-842 B1** on enclosed inquiry slip

HYDRAULIC MOTORS

gearhead type made in three sizes



Metering valve which operates in both directions of rotation allows smooth start and stop of Roto-Versal hydraulic gearhead motors, plus inching of heavy loads. Planetary drive type units are made in three sizes and six reduction ratios, with the same speed in both directions, or with a high speed reverse that is up to 5¼ times forward speed. An automatic brake is actuated by pressure changes, and any loss of pressure sets the brake. Flange-mounted units with female spline output shaft are available in maximum full load forward and reverse speeds of 362 and 1885, 257 and 1450, and 210 and 1072 rpm. Respective maximum output torques in forward rotation are 2020, 4870, and 11,500 lb-in. Maximum reverse torques are 388, 870, and 2156 lb-in., respectively. • **Gearmatic Co.,** 7400 132nd St., North Surrey, B. C., Canada.

For more details circle **NED-843 B1** on enclosed inquiry slip

LYON® SERVICE CARTS

2 SIZES

30″ long
16″ wide
32″ high

•

36″ long
24″ wide
32″ high

MADE OF LIFETIME STEEL

Save steps and time in material handling. Have 5″ diameter composition rubber wheels—2 stationary and 2 swivel. Formed steel tube push bar. 3″ deep, pan type trays. Lyon Gray baked-on enamel.

Write for free 100-page Lyon Catalog.

LYON METAL PRODUCTS, INC.
General Offices: 122 Monroe Ave., Aurora, Illinois
Factories in Aurora, Ill.—York, Pa.—Los Angeles
Dealers and Branches in All Principal Cities

For more details circle **NED-844 B1** on enclosed inquiry slip

LYON® SHOP DESKS

BOTH STANDING AND CABINET TYPES

Standing type (shown) provides writing surface, storage space and drawer with lock.

Bottom shelf adjustable. Cabinet type has same top and drawer plus lock-up storage cabinet below.

Durably built of steel, finished in gray baked-on enamel.

Write for free 100-page Lyon Catalog.

LYON METAL PRODUCTS, INC.
General Offices: 122 Monroe Ave., Aurora, Illinois
Factories in Aurora, Ill.—York, Pa.—Los Angeles
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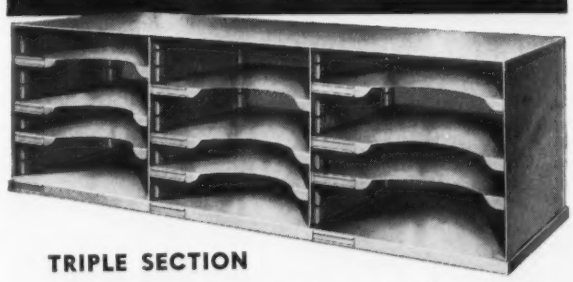
For more details circle **NED-845 B1** on enclosed inquiry slip

LYON® SORTING FILES



TRIPLE SECTION

Ideal for sorting operations or keeping reference material right at finger tips. Stack to any desired height. Shelves adjustable every inch without tools—may be tilted if desired. Labelholder on each opening. Single sections also available—excellent for desk mail racks. Lyon Gray baked-on enamel.

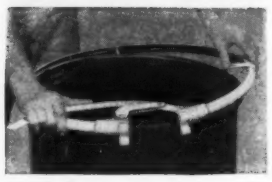
Triple Section: 33½″ wide, 12″ deep, 10⅝″ high
Single Section: 11⅜″ wide, 12″ deep, 10⅝″ high

***Write for* free 100-page Lyon Catalog.**

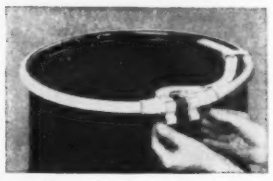
LYON METAL PRODUCTS, INC.
General Offices: 122 Monroe Ave., Aurora, Illinois
Factories in Aurora, Ill.—York, Pa.—Los Angeles
Dealers and Branches in All Principal Cities

For more details circle **NED-846 B1** on enclosed inquiry slip

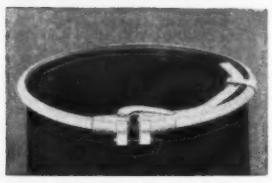
NEW LEVER-BOLT RING



1. Apply ring to drum.



2. Clamp lever in place, insert bolt and apply nut.



3. Tighten bolt for finished job.

Provides air-tight closure for full removable-head drums

Just 3 quick-easy steps . . . and this new Lever-Bolt ring seals the drum, makes an air-tight closure, and provides double protection. Two independent locking means are provided: (1) the lever-lock, for a quick and generally adequate **reusable** closure, and (2) the nut-and-bolt, providing a positive seal in transit.

Gain simplicity, speed and better protection against damage and shipping losses. Specify Drum Parts LEVER-LOCK Rings for YOUR full removable-head drums. **Additional cost is amazingly low.**

Consult your drum manufacturer . . . or write for NEW CATALOG containing descriptive details on all Drum Parts closure devices. Send for your copy today.

DRUM PARTS, INC.
10311 Meech Ave., Cleveland 5, Ohio

For more details circle **NED-847 B1** on enclosed inquiry slip

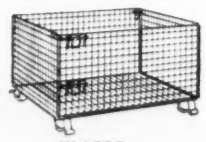
IT'S FREE

All yours for the asking . . . the big, new Palletainer catalog. Profusely illustrated with interesting and varied money-saving Palletainer applications, plus complete specifications and construction details.

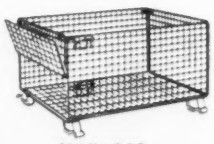
the DIFFERENCE between PROFIT and LOSS....

. . . is determined by your efficiency in handling part and products between successive production stages—shipment and delivery.

And . . . if you're interested in reducing high handling costs in your plant, send for Union Steel Products Company's big new Palletainer catalog. It quickly and concisely shows many different Palletainer applications which represent the latest methods of handling, storing and warehousing. Construction features and complete specifications on the broad range of models available are also fully covered.



HI-LODE



BULK-LODE

WAREHOUSE

"JUNIOR"

SPECIAL OFFER

See for yourself . . . actually try Palletainers in your plant on a 60-day memo billing basis. Your obligation is freight—only! Phone today.

UNION STEEL PRODUCTS CO.
ALBION, MICHIGAN

Gentlemen: Please send my copy of the new Palletainer booklet at once. ☐

Name_____
Title_____
Company_____
Address_____
City_____ Zone____ State_____
Please have your representative contact me at once..... ☐

For more details circle **NED-848 B1** on enclosed inquiry slip

New Literature & Catalogs

Filtering Fluids

Screen Products, Inc.—Data and formulas to determine the filter requirements for most liquid systems as well as descriptions and performance characteristics of a wide range of filters are contained in 36-page illustrated catalog. Details of all-metal filter assemblies for lube oils, hydraulic fluids, coolants, corrosive liquids, and other fluids are given.

For more details circle **NED-849 B1** on enclosed inquiry slip

OBI Power Presses

Havir Mfg. Co.—Open-back inclinable power presses in capacities from 2 to 85 tons are described in 8-page Press-Rite Catalog. The new 55 and 70-ton models which have optional Airflex friction clutch and air applied brake are featured.

For more details circle **NED-850 B1** on enclosed inquiry slip

Mercury Lamp Manual

Westinghouse Electric Corp., Lamp Div.—Nearly all phases of mercury vapor lamp lighting including light output, life ratings, and electrical and physical characteristics are covered in 28-page technical manual entitled "Mercury Lamps." It also describes lamp construction, designations, color rendition, and needed auxiliary equipment. Uses for floodlighting, industrial plant lighting, and commercial applications are discussed.

For more details circle **NED-851 B1** on enclosed inquiry slip

Rectifier Data

Syntron Co.—Certified silicon and selenium rectifiers with peak inverse voltage ranges to 19,200 v per cartridge are detailed in condensed Catalog 100. Cutaway full-color drawings show features of silicon diodes and stacks and selenium rectifiers, stacks, and cartridge rectifiers.

For more details circle **NED-852 B1** on enclosed inquiry slip

Electric Control & Distribution

Empire Electric Products Co.—List prices, dimensions, and engineering data on lighting and distribution panelboards, motor starters, low impedance bus duct, service entrance switches, and other electrical control and distribution equipment are contained in 32-page 1960 Catalog. Custom built control and switchboard units are covered also.

For more details circle **NED-853 B1** on enclosed inquiry slip

Free Technical Films

Modern Talking Picture Service, Inc.—More than 130 technical films for use by business, industry, and commercial and engineering colleges are briefly described and listed in guide entitled "Modern's Catalog of Free Loan Technical Films." All are 16-mm sound films, mostly in color, and range in length from 15 to 30 min. Films are stocked in 30 regional film libraries throughout the country.

For more details circle **NED-854 B1** on enclosed inquiry slip

this is it! 8 PAGES

The world's greatest Reamer

SELECTION *by the thousand's*

BY STYLES • DIMENSIONS
RANGES • SELECTIBILITY
STOCK ITEMS • NET PRICES

BUY SUPEREAM — The reamer that is sold and stocked in more sizes than any other reamer in the whole world.

TWENTIETH CENTURY MFG. CO., Box 429NED, Libertyville, Illinois
GENTLEMEN: Send us the NEW SELECTIVE CATALOG No. 10A.
NAME_____ Firm_____
Address_____
City_____ Zone____ State_____

For world's greatest selection of REAMERS!

For more details circle **NED-855 B1** on enclosed inquiry slip

Hole Punching & Notching

Punch Products Corp.—"The Story of Unipunch Hole Punching and Notching Equipment" is a 10-page manual which discusses conventional die versus Unipunch tooling. Typical parts produced with unitized tooling in punch presses and press brakes are shown.

For more details circle **NED-856 B1** on enclosed inquiry slip

Vacuum Ovens & Equipment

Temperature Engineering Corp.—30-page illustrated catalog describes vacuum ovens, diffused heat chambers, radiant ovens, dry-box vacuum bake systems, modular controlled atmosphere enclosures, and vacuum equipment.

For more details circle **NED-857 B1** on enclosed inquiry slip

Waveguide Components & Test Equipment

Over 750 waveguide devices and test equipment items are presented along with application notes, electrical and mechanical specifications, and outline drawings in 116-page catalog. Components are cross-referenced and indexed by function and frequency band of operation. Available only by writing on letterhead to Microwave Associates, Inc., South Avenue, Burlington, Mass.

For more details circle **NED-858 B1** on enclosed inquiry slip

Industrial Trucks

Hamilton Caster & Mfg. Co.—Condensed Truck Catalog No. 135 is descriptive of line of industrial, institutional, and commercial floor trucks. Types covered include four-wheel platform, stake, box, wagon, shelf, two-wheel, and other standard trucks and dollies with a range of sizes and types of wheels.

For more details circle **NED-859 B1** on enclosed inquiry slip

Air & Hydraulic Controls

Rucker Co.—Catalog 601, a condensed version of the complete pneumatic and hydraulic controls and equipment catalogs, contains 8 pages of information on valves, cylinders, filters, lubricators, pumps, motors, accumulators, power units, and other industrial and mobile components.

For more details circle **NED-860 B1** on enclosed inquiry slip

Thermostatic Bimetal Calculator

Texas Instruments Inc., Metals & Controls Div.—Two imprinted plastic charts and a technical data bulletin comprise a free Truflex Nomograph Calculator kit. This easy-to-use tool enables one to plot sample sizes of thermostatic metals for simple and cantilever beams, spiral and helix coils, and U-shapes by means of graphic charts.

For more details circle **NED-861 B1** on enclosed inquiry slip

Industrial Bucket Elevators

Hewitt-Robins Inc.—24-page Bulletin 174 is entitled "Belt Engineering for Industrial Bucket Elevators." It contains technical and application data on various types of bucket elevators, and recommends various belting grades for specific service conditions.

For more details circle **NED-862 B1** on enclosed inquiry slip

TRICKY BENDS ARE NO TRICK

With Pedrick Production Benders any bend is an easy bend—fast and economical, too! Pipe, tubing, bus bar or structural metal—*bend with Pedrick.*
PEDRICK TOOL AND MACHINE CO. Dept. 6.

"You'll profit by reading the NEW PEDRICK LINE BULLETIN. Write today."

BEND WITH PEDRICK

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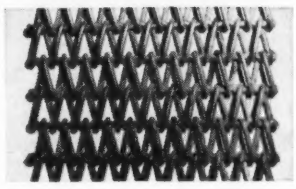
New Processes and Materials

WOVEN WIRE BELTING
for conveying hot, heavy parts



Made of ¼-in. medium carbon wire, woven in widths to 48 in., H.D. woven wire conveyor belting is designed to carry heavy hot forgings, castings, and other objects. It is also suited for use in washing operations. It can be supplied carburized for longer life and can be driven by Sheehan positive drive spike pulleys. • **R. T. Sheehan Co.**, Box 345, Plymouth, Mich.

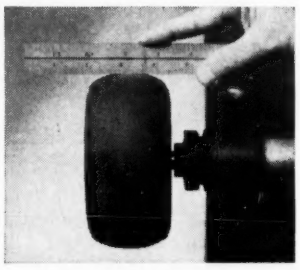
▲ For more details circle **NED-864 B1** on enclosed inquiry slip ▲

SILICONE VARNISH
cures at low temperature in 6 hr

Need for high temperature curing is eliminated by use of Dow Corning 981 Class H varnish which cures at 150° C in 6 hr. The dipping and impregnating varnish meets AIEE requirements for both 180 and 220° C systems. Despite its low curing temperature, it has high heat stability and a minimum of run-off. Varnish is suited for impregnating such large equipment as 500 kva or larger transformers, traction motor armatures, motors, and generators. • **Dow Corning Corp.**, Dept. CS-149, Box 592, Midland, Mich.

▲ For more details circle **NED-865 B1** on enclosed inquiry slip ▲

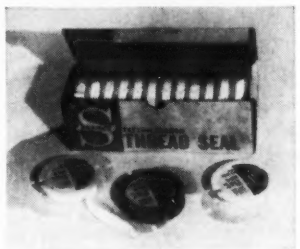
ABRASIVE BANDS & BELTS
assume any desired degree of crown



Both stock removal and polishing operations are performed with Kontoor coated abrasive belts which assume varied crown shapes when run on inflatable rubber drums. Degree of crown depends upon grit size, air pressure, drum speed, and pressure exerted. Bands and belts are suited for offhand work in confined areas, particularly on concave or other contoured surfaces. Their crowned shape eliminates edge cutting and permits accurate grinding on very narrow areas. Aluminum oxide abrasive in 40 to 180 grit is bonded on X-weight cloth with resin adhesives. Bands and belts are usable on smooth-faced or serrated Valcore drums made by Nu-Matic Grinders Inc. Sizes of 2 x 9⅝ in., 2½ x 15½ in., and 2 x 19 in. have maximum speeds of 6000, 4500, and 4000 rpm, respectively. • **Behr-Manning Co.**, Drawer 808, Troy, N. Y.

▲ For more details circle **NED-866 B1** on enclosed inquiry slip ▲

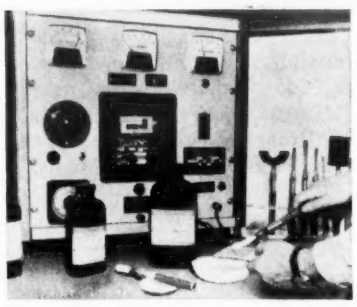
CODED TEFLON PIPE DOPE
packaged on reusable plastic spools



Offered on color-coded reusable crushproof plastic spools, Universal Thread Seal is now available in 100, 260, and 520-in. sizes. This tape-like Teflon pipe dope can be used on water pipe, steam lines, plastic tubing, and chemical transmission lines. It is also usable on valve stem nuts and for flared tubing joints. • **W. S. Shamban & Co.**, 11617 W. Jefferson Blvd., Culver City, Calif.

▲ For more details circle **NED-868 B1** on enclosed inquiry slip ▲

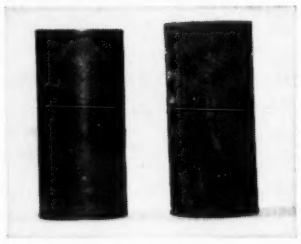
SELECTIVE PLATING PROCESS
deposits metal exactly as needed



Through the use of a power pack, plating stylus, and generally basic electrolytes a selective plating process permits the deposit of many metals and alloys on almost any conductive base material. Thicknesses are precisely controlled, and plating is limited only to areas where it is needed. Power supplies operate on standard shop current. Plating current is applied through a cotton-wrapped graphite anode, saturated with the appropriate electrolyte, only to the area where the metal is to be deposited. By varying current density, speed and amount of plating is controlled. • **Selectrons, Ltd.**, 520 Fifth Ave., New York 36, N. Y.

▲ For more details circle **NED-869 B1** on enclosed inquiry slip ▲

RUST PREVENTIVE
dry film type is transparent



Surfaces of metal objects stored outdoors for long periods of time are protected by Rust Veto 342, a transparent plastic dry film rust preventive. Being transparent, it allows painted or stamped numbers to be easily seen. Also affording protection from salt spray, the film is easily removed with solvent or mild alkali cleaner. It is not brittle and will not chip, crack, or flow from −40 to 175° F. Photo shows coated pipe after 23 months (left) and uncoated pipe covered with bright rust after 3 weeks (right). • **E. F. Houghton & Co.**, 303 W. Lehigh Ave., Philadelphia 33, Pa.

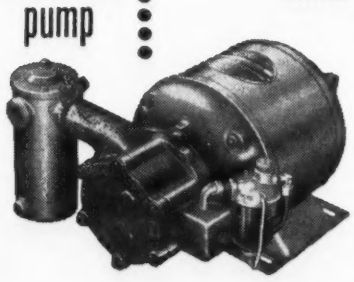
▲ For more details circle **NED-870 B1** on enclosed inquiry slip ▲

NEED VACUUM?

use the COMPACT pump

The Motoair Pump is built integral with its own motor to take the least amount of space and to avoid extra assembly necessary with separate drive.

Automatic lubrication complete with re-circulating system and visible oil reservoir is a feature of



the MOTOAIR®

Instantaneous suction and positive action is provided with the Motoair, being directly driven at the same rpm. as the motor.

ASK FOR CATALOG with performance data on various sizes of pumps. Oil-less models also available.

B24

NEW JERSEY MACHINE Corporation

FACTORY SALES AND SERVICE BRANCHES
CHICAGO
LOS ANGELES

1550 WILLOW AVENUE, HOBOKEN, N. J.

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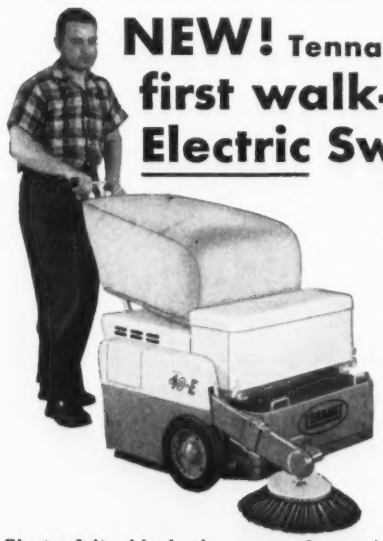

NEW! Tennant develops first walk-behind Electric Sweeper!

- No noise, no fumes. Assures safe, ULTRA-CLEAN sweeping
- Propels itself at 1.9 mph. Sweeps 34" path (max.)
- Sweeps up to 2000 sq. ft. in 5 minutes or less
- Rotary 17" side brush sweeps flush with walls
- Full-floating 26" main brush sweeps dirt into 2 cu. ft. removable hopper
- High volume vacuum sucks fine dust into 2200 sq. in. filter area
- Easy-to-use finger-tip controls. Stops automatically when handle is released

First of its kind, the new TENNANT Model 40-E *Electric* Sweeper is in a class by itself for ultra-clean sweeping and quiet operation.

Just 33" wide, this new self-propelled, dual-battery machine is especially made for *swift, safe* and *silent* vacuumized sweeping of critical congested areas. No noise, no fumes, no odors . . . when you sweep *electrically!*

Sweeps over 38,000 sq. ft. on a single battery charge under normal conditions.

WRITE TODAY *for colorful, illustrated bulletin!*

TENNANT *Industry's Most Widely Used* POWER SWEEPERS

G. H. Tennant Company • 715 B No. Lilac Drive • Minneapolis 22, Minnesota

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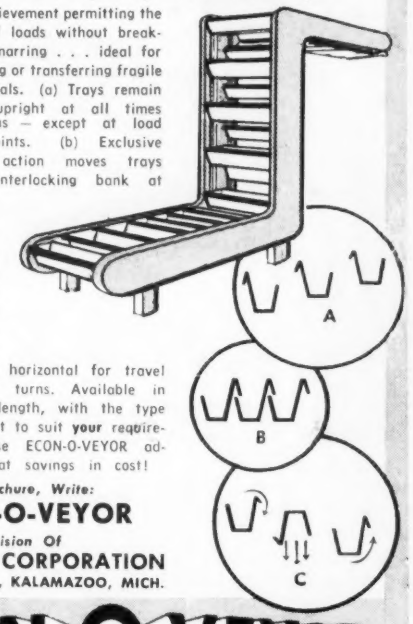
New! Gentle-Action Food Elevator
ECON-O-LIFT
Operates on A Completely Different Principle

A remarkable achievement permitting the rapid handling of loads without breakage, dusting or marring . . . ideal for elevating, lowering or transferring fragile foods and materials. (a) Trays remain separated and upright at all times — even at turns — except at load and unload points. (b) Exclusive ECON-O-SPACER action moves trays together into interlocking bank at loading point — no spillage between trays ever. (c) Trays turn upside-down **only at unloading point** for dumping, quick return to horizontal for travel —no fallout at turns. Available in any height or length, with the type of tray or bucket to suit **your** requirements. All these ECON-O-VEYOR advantages at great savings in cost!



For Brochure, Write:
ECON-O-VEYOR
Division Of
HAPMAN CORPORATION
630 GIBSON ST., KALAMAZOO, MICH.

ECON-O-VEYOR

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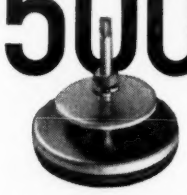
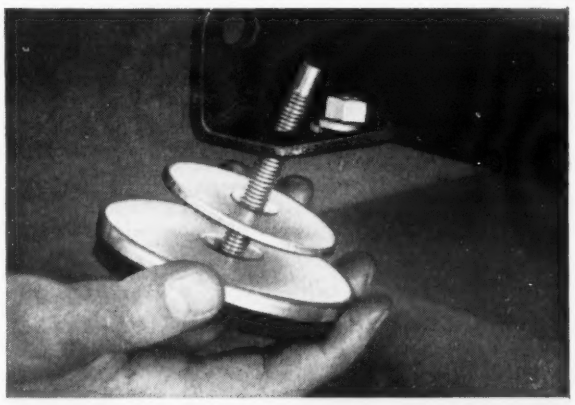
1. INSTALL MACHINERY FAST
2. LEVEL 3. LICK VIBRATION

NEW LEVEL-RITE SERIES 500



Cut machinery installation time and costs up to 70, 75, even 80% . . . eliminate transmitted vibration up to 85%! That's the money-saving move with Level-Rite Series "500" — latest member of the Unisorb family. No lagging, no cement, no drilling, no "hit or miss" spotting is needed. Unisorb Level-Rite mounting is fast — machines can be moved and relocated quickly and with a minimum of downtime.

Level-Rite Series "500" is a self-contained leveling mount for light and medium duty machine shop tools. It withstands weights up to 750 lbs. Send for literature.



SPECIAL ADVANTAGES: Fast, simplified, precise leveling Free-floating screw post — compensates for uneven floor Safe, sure grip — can be cemented if needed • Lowers noise level — increases worker efficiency • Better machine performance (improved alignment) • Available in many types and thicknesses for all machine types • Money-back trial is yours for the asking.

UNISORB

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Division of The FELTERS Company, New York, N. Y. • Chicago, Ill. • Detroit, Mich. • Upper Darby, Penna. • St. Louis, Mo. • Taylor Felt & Supply Co., San Francisco, Calif. • Acorn Mfg. Co., Los Angeles, California.
Please send me a Unisorb Sample and Free Book ☐
Please send literature on Unisorb Level-Rite "500" ☐

Name.....
Company.....
Address.....
City.....Zone.....State.....

▲ For more details circle **NED-873 B1** on enclosed inquiry slip ▲

Both Flexaust hose and Portovent retractable duct are made of neoprene coated fabrics and wire reinforced, and have service-proven their dependability and durability in thousands of installations since 1938. Easy to cut, couple, connect, reuse, relocate, they can be installed in minutes to give years of service. Sizes from 1¼ to 36" i.d.

WRITE TODAY FOR DETAILS
"Distributors in all principal cities"
THE FLEXAUST COMPANY
Dept. NED-2 100 Park Avenue, New York 17, N. Y.

For more details circle NED-878 B1 on enclosed inquiry slip

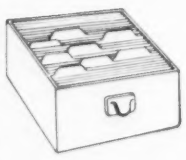
INSTALLS IN 1/10 ORDINARY TIME—ALWAYS IN PERFECT ALIGNMENT

You can hook up a Reuland motor and any standard make hydraulic pump in a matter of only seconds. All you have to do is slip the spline coupling onto the motor's spline shaft and attach the pump flange to the endbell.

Absolutely perfect alignment is assured. There is no tinkering around with a mounting platform and your finished job always has a sleek, well-designed appearance. For all pumps. Coupling supplied with motor.

A Typical Example From the Free
REULAND SPECIAL-MOTOR LIBRARY!

Don't ever pay for special-motor development before you check this valuable library. Contains data on hundreds of unique motors—one of which may already be made-to-order for your needs. Originally designed for special uses, now available as standard motors to help you save expensive development work and put you in production faster. WRITE FOR YOUR FREE BOOKLET ON HOW TO USE THIS VALUABLE LIBRARY!



Other **REULAND** *firsts!*

- Motor with internal fluid coupling
- All-aluminum motor frames
- "Through-Shaft" magnetic disc brakes
- Foot mounted magnetic disc brake complete with bearings and shaft
- Precision motors for machine tools

Free general catalog of the COMPLETE Reuland line of Standard and Special Motors sent on request.

REULAND MOTORS

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Eastern Division: Howell 25, Michigan
Distributors in all principal cities
Refer to Sweet's 1961 Design File 7a/RE

For more details circle NED-879 B1 on enclosed inquiry slip

New Literature & Catalogs

Coil Grabs & Hooks

Dixon Automatic Tool, Inc.—Dixon coil grabs and coil hooks shown in 4-page Bulletin CH-B1 lift, turn, and load heavy steel strip coils in one easy motion. Devices are offered in 1000 and 2000-lb capacities for handling coil stock up to 12 in. wide.

For more details circle NED-880 B1 on enclosed inquiry slip

Architectural Aluminum Grilles

Klemp International—Specification manual on Anotec architectural, anodized aluminum grilles covers a wide choice of standard geometric patterns, dimensions, and colors. Industrial, commercial, and housing uses are shown. Typical applications are as curtain walls, solar screens, and walkways.

For more details circle NED-881 B1 on enclosed inquiry slip

Industrial Maintenance Products

Fine Organics, Inc.—Pocket-size Technical Data Sheet 13 indexes 78 industrial maintenance products. Included are solvents, emulsion cleaners, general purpose cleaners, carbon and rust removers, aluminum brighteners and polishes, paint strippers, instrument parts cleaners, defoamers, deodorants and disinfectants, shop chemicals, and de-icing compounds.

For more details circle NED-882 B1 on enclosed inquiry slip

Electrical Contacts

Judson L. Thomson Mfg. Co.—Several of the thousands of precious metal electrical contact designs engineered by this company are shown in 4-page folder. Also reviewed briefly are four automatic contact assembly machines which feature automatic feeding of contacts from an integral hopper.

For more details circle NED-883 B1 on enclosed inquiry slip

16 to 75-Ton OBI Presses

Minster Machine Co.—Press and slide construction, inclining mechanisms, and lubrication arrangements relative to 16 to 75-ton capacity OBI presses are covered in 20-page Bulletin 15. Presses are intended for primary, secondary, and automatic stamping operations.

For more details circle NED-884 B1 on enclosed inquiry slip

Nylon, Teflon & Epoxy Parts

Cosmo Plastics Co.—Specifications on more than 500 bobbin, washer, and precision parts in nylon, Teflon, and epoxy are listed in 24-page catalog. Epoxy parts reportedly retain electrical properties at temperatures as high as 400 to 500° F. Sizes and shapes are clearly defined for parts made to specification.

For more details circle NED-885 B1 on enclosed inquiry slip

Shovels, Spades & Scoops

Wood Shovel & Tool Co.—Simplified 32-page catalog-price list shows all shovels, spades, and scoops made by this firm. Pertinent ordering and price information is provided for easy selection. Catalog condenses all information formerly carried in ten catalog sections.

For more details circle NED-886 B1 on enclosed inquiry slip

This Hopper on your truck

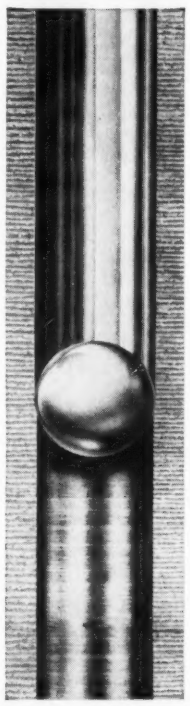
CAN CUT HANDLING COSTS 50%

One man with a lift truck can cut handling time and effort in half with Roura *self-dumping* hoppers. Pull a latch and the Hopper *automatically* dumps itself, rights itself, locks itself. Thousands of Roura Hoppers are now in use handling scrap metal, hot forgings . . . in fact, *any* bulk material or component parts. Eight sizes, ⅛ to 4 yards capacity . . . made of steel plate, stainless or galvanized. Standard models shipped from stock. For detailed specifications, write:

ROURA IRON WORKS, INC.
1415 Woodland Avenue,
Detroit 11, Michigan.

ROURA *Self-Dumping* HOPPER

For more details circle NED-887 B1 on enclosed inquiry slip



How To Size And Finish More Holes Per Dollar

In brief: *Ballize* them.

Ballizing brings holes to size in *seconds*, with high precision and fine finish — *faster* and at *far less cost* than any other method — simply by forcing a precision ball through the unfinished hole.

This process uses *any* machine having a ram or push rod — has no close adjustments or tool maintenance — uses unskilled labor — cuts scrap and inspection costs. It saves and saves.

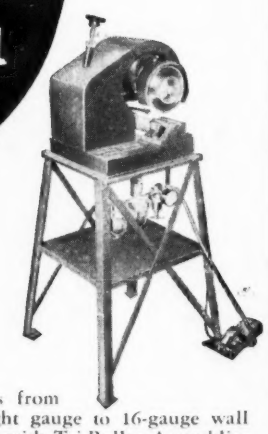
FREE BALLIZING BULLETIN gives full details; shows typical setups; gives cost and production data. *Write for it!*

INDUSTRIAL TECTONICS, INC.
MANUFACTURERS OF PRECISION BALLS AND BEARINGS
BALL DIVISION: 3686 JACKSON RD.
ANN ARBOR 3, MICHIGAN

For more details circle NED-888 B1 on enclosed inquiry slip

...Pays for itself!
NO MATERIAL LOSS

Cuts up to 2,000 tubes per hour!



CONTINENTAL PIPE & TUBE ROTARY CUT-OFF MACHINE

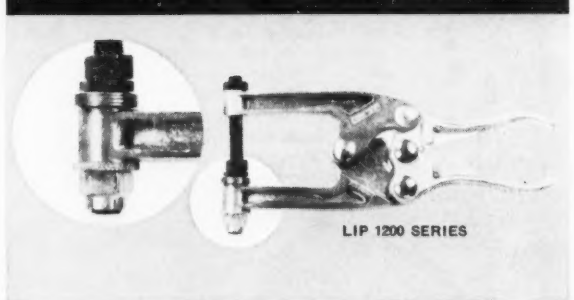
It zips right through tubes from ⅜" to 1¼" O.D., from light gauge to 16-gauge wall thicknesses. Adjustable table with Tri-Roller Assemblies and Manual Stock Loader. Also Cut-Off Machines for pipes and tubes up to 12" diameter, air or hand-operated.

MACHINE RENTAL PLAN

SINCE 1919
Continental machine co.
2345 W. NELSON ST. • CHICAGO 18, ILL.

For more details circle NED-889 B1 on enclosed inquiry slip

NEW *KNU-VISE* LOAD INDICATING PLIERS GUARANTEE CLAMPING FORCE



These pliers are for applications where it is essential, and often critically so, that a certain clamping force be applied time after time—*regardless of the thickness of the work.*

In use, the adjusting spindle is set for the desired clamping force by trial clamping. When the proper force is obtained, the self-locking nut on the anvil is then adjusted so that the LOAD INDICATING WASHER moves "just smoothly" with the plier clamped on the work. Thus, once a certain clamping force has been established it can be readily duplicated on any other work thickness simply by adjusting the spindle so that the LOAD INDICATING WASHER again moves "just smoothly" after clamping.

Write for complete information on this time-saving model.

Manufacturers of over 150 models of manually and air-operated clamps and pliers

KNU-VISE PRODUCTS LAPEER MANUFACTURING CO.
3062 DAVISON ROAD
LAPEER, MICHIGAN
WESTERN DIV.: PECK and LEWIS CORPORATION 4436 Long Beach Ave., Los Angeles 58, Calif., ADams 3-7146
CANADIAN DIV.: HIGGINSON EQUIP. SALES LTD. 1131 Pettit Road, Burlington, Ontario

For more details circle NED-890 B1 on enclosed inquiry slip

GRINDING MILL OUTPUT upped!

Performance proved! Sturtevant Air Separators, in closed circuits with grinding mills, have increased mill capacities from 25 to 300% while lowering power consumption as much as 50% in the cement industry.

Easily adaptable to your materials! Sizes of Sturtevant Air Separators, ranging from 3 to 18 feet dia., can be engineered to fit your specifications.

Cost-cutting features include rugged construction for a lifetime of low down-time service *plus* easy accessibility for quick maintenance (typified by the "OPEN-DOOR" design in other Sturtevant equipment).

Write for bulletins on Sturtevant Air Separators and other custom-built equipment listed below. STURTEVANT MILL CO., 114 CLAYTON ST., BOSTON 22, MASS.

STURTEVANT
Dry Processing Equipment
The "OPEN-DOOR" to lower operating costs over more years
CRUSHERS • GRINDERS • MICRON-GRINDERS • SEPARATORS
BLENDERS • GRANULATORS • CONVEYORS • ELEVATORS

For more details circle NED-891 B1 on enclosed inquiry slip

WILL *DEFINITELY* give you fewer rejects, longer runs—NON-GALLING, EVEN at TWENTY TONS per square inch!

This most remarkable lubricant has been proved in laboratory tests as the very best for lathe centers, steady rests, thrust bearings, broaching, swaging, tapping and many new operations you may not think possible today!

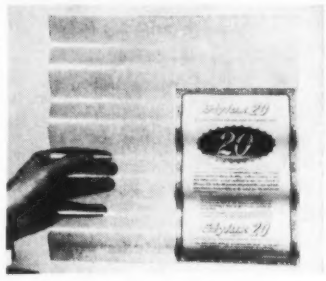
Read how big industry has solved reject problems, longer runs at savings up to 81% over commonly used lubricants. Free booklet of testimonials, new uses, new lubricating facts. Write.

®CMD **CHICAGO MANUFACTURING & DISTRIBUTING COMPANY**
1928 W. 46th St. • Suite D-2 • Chicago 9, Ill.

For more details circle NED-892 B1 on enclosed inquiry slip

New Processes & Materials

REINFORCED PLASTIC PANELING
is shatterproof and translucent



Stylux 20 glass fiber-reinforced plastic paneling reportedly retains its uniform surface condition with no blooming of fibers, erosion, or surface failure for 20 years. It remains shatterproof and resists deteriorating effects of sunlight and water. Material provides 90 per cent light transmission with effective heat reflection. Wide assortment of colors suit it for use as translucent sidewalls, partitions, awnings, sunshades, and other decorative structures. • **Butler Mfg. Co.**, 7400 E. 13th St., Kansas City 26, Mo.

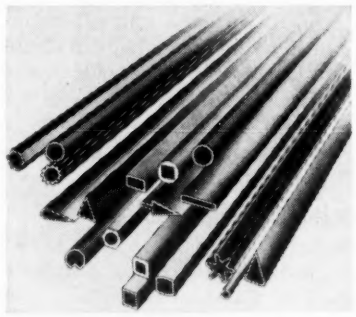
For more details circle NED-894 B1 on enclosed inquiry slip

ACOUSTICAL FELT
quiets business machines, computers

High sound absorption quality of vinyl-coated acoustical felt suits it for use as lining material in business machines, computers, and industrial applications where noise abatement is required. At 600 to 1000 cps, felt reportedly absorbs from 100 to 300 per cent more sound than presently used materials. The perforated vinyl coating on one side of the felt prevents surface fiber shedding. Felt is ¼ in. thick and available in gray or black vinyl colors in 72-in. wide rolls or in cut parts. Rolls run 65 yd long. • **Western Felt Works**, 4021 Ogden Ave., Chicago 23, Ill.

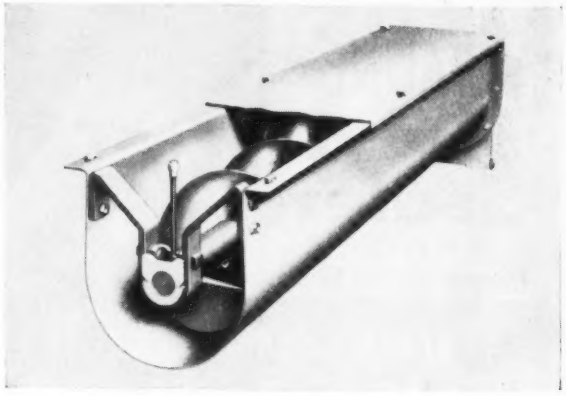
For more details circle NED-895 B1 on enclosed inquiry slip

SEAMLESS BRASS TUBING
small diameter, thin wall type



Round, elliptical, teardrop, polygonal, polygonal outside and round inside, and special shapes to order are obtainable in this West German-made small diameter, thin wall brass tubing. Some of the shapes which can be produced are shown. Tubing has a high surface finish and is made with temper, tolerances, and physical properties to meet specifications. Wall thicknesses range from 0.005 to 0.030 in., outside diameter from 0.050 to 0.500 in., and lengths from ¼ in. to 15 ft. • **Avins Industrial Products Corp.**, 50 Broadway, New York 4, N. Y.

For more details circle NED-896 B1 on enclosed inquiry slip



spiral conveyors and fittings

Six types of flights, in diameters ranging from 4" to 24"—bearings and hangers in a variety of styles, enabling you to meet most any operating condition. Modern methods of manufacture at Jeffrey assure maximum strength and true alignment.
Interchangeable parts in factory and distributor stocks.
Send for Catalog 851

JEFFREY
THE JEFFREY MANUFACTURING COMPANY • COLUMBUS 16, OHIO

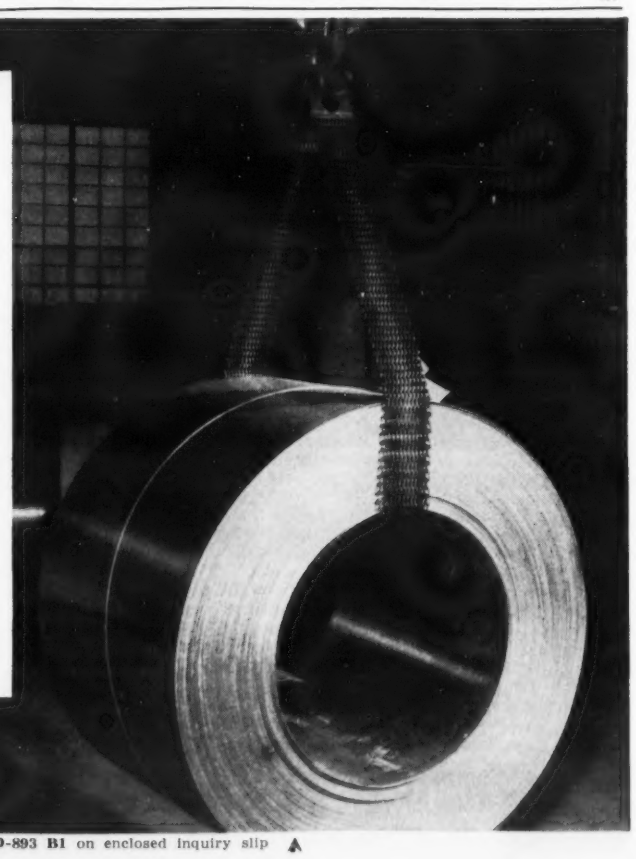
For more details circle NED-897 B1 on enclosed inquiry slip

GRIPPER® metal-mesh SLINGS give you FLEXIBILITY for any lifting job

Notice how easily the Gripper Sling conforms to the edge of the coiled strip shown. It's this flexibility that makes Gripper Slings best for handling flat sheets, angular loads or small, irregular shapes as well as coiled strip . . . best because Gripper Slings won't "bite" into stock . . . won't chip, mar or score load edges. And, it's this flexibility feature that helps you save on handling costs because Gripper Slings won't kink or tangle . . . one man can rig or unhitch a load faster, easier.

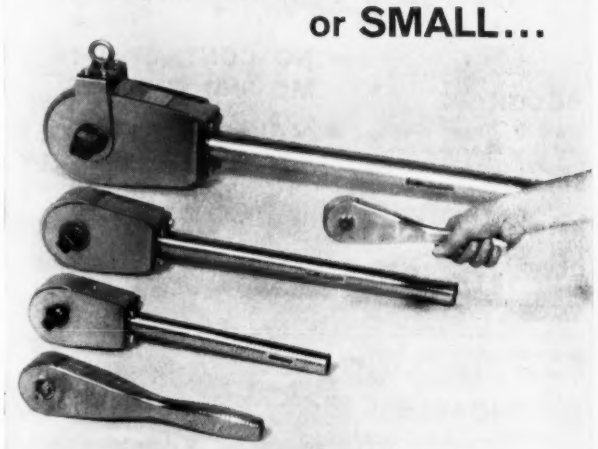
Gripper Slings, pretested to meet load specifications, are available in standard lengths and widths with capacities up to 100,000 lbs. Special sizes, alloys or Neoprene or PVC plastic covered slings available. Write for FREE CATALOG and name of your nearest materials handling distributor.

The Cambridge Wire Cloth Co.
Department E • Cambridge 2, Md.



For more details circle NED-893 B1 on enclosed inquiry slip

Now tackle BIG jobs or SMALL...



SWENCH®
Manual Impact Wrenches
NOW AVAILABLE IN NEW ½" and ⅝" UTILITY SIZES

Small in size, the all new ½" and ⅝" SWENCH manual impact wrenches are big in power when it comes to loosening tough, small sized "frozen" nuts and bolts.

Like the heavy duty SWENCH wrenches for industrial use, the new ½" and ⅝" sizes apply a tremendous wallop of torsional impact in automotive, light industrial, commercial, and utility use.

Now a completely portable SWENCH can be taken to any job — big or small — for high speed, safe and easy removal of "frozen" nuts and bolts that previously had to be burned off or drilled out. SWENCH wrenches are economical too — they cost far less than other types of impact wrenches and save valuable man hours.

In addition to the new ½" and ⅝" sizes, SWENCH wrenches are available with ¾", 1", 1¼", and 1½" drives. Call your local industrial distributor today for a demonstration or write to:

AD NO 32 A

Don't wrench it,-SWENCH IT!

CURTISS WRIGHT
MARQUETTE DIVISION
1145 Galewood Drive, Cleveland 10, Ohio

For more details circle NED-898 B1 on enclosed inquiry slip

SEALINE
Hand Sealer
For Thermo-Plastic Films

SEALS BAGS - PACKAGES - STRAIGHT or IRREGULAR SHAPES

Ideal on Polyethylene and Pliofilm

New and Improved
- "Teflon" coated roller eliminates intermediate material or liquid. Seals direct.
- Now available — AC or DC —110V or 220V.
- Adjustable temperature control 200° to 450° F.
- Easy to handle — weighs less than 1 lb.

SEALINE Hand Sealer $23.90 f.o.b. Chicago

ORDER DIRECT

CENTURY ENGINEERING CO., Inc.
4720 W. Lake St., Chicago 44, Ill.

For more details circle NED-899 B1 on enclosed inquiry slip

IS MACHINE SPEED IMPORTANT?

CHECK RATED SPEEDS ACCURATELY WITH A FRAHM TACHOMETER

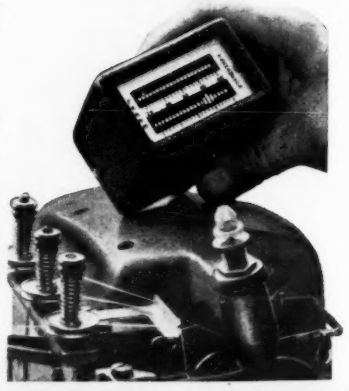
- NO CONTACT WITH MOVING PARTS
- MAKES SPEED CHECKS EASILY AND QUICKLY

ACCURATE
Guaranteed better than ½ of 1% of measured speed. Unaffected by ordinary temperature changes, by stray magnetic fields, or by the position in which it operates.

DURABLE
No moving parts to wear or be lubricated—not injured by overspeeding—no maintenance.

DEPENDABLE
The inherently stable steel reeds will operate indefinitely under normal conditions with no discernible drift in natural frequency.

Write for BULLETIN 31D



JAMES G. BIDDLE CO.
Electrical & Scientific Instruments
1316 ARCH STREET, PHILADELPHIA 7, PA.

For more details circle NED-900 B1 on enclosed inquiry slip

New Literature & Catalogs

Roof Exhaust Fans

Davidson Fan Co.—Two 4-page bulletins, PC-101 and SS-101, are descriptive of Pleasing Contour and low-velocity high-capacity roof exhaust fans, respectively. Sizes are available for handling up to 49,650 cfm of free air.

For more details circle NED-902 B1 on enclosed inquiry slip

Cast Bronze Bushings

Markey Bronze Bushing Co.—4-page illustrated bulletin depicts typical cast bronze bushings and lists their applications. Handy chart lists chemical compositions and physical properties of 20 popular SAE brass and bronze alloys.

For more details circle NED-903 B1 on enclosed inquiry slip

Plastic Laboratory Ware

Nalge Co.—Many durable polyethylene and polypropylene items are included in the line of unbreakable, corrosion-resistant plastic laboratory ware described in 24-page Catalog J1060. New items listed are Buchner type filter funnels and 125-ml Erlenmeyer flasks, as well as reduced-price plastic bottle and carboys.

For more details circle NED-904 B1 on enclosed inquiry slip

Boring Bars & Accessories

Giddings & Lewis Machine Tool Co.—The Davis boring bar tooling system is explained and a line of boring bars and related tools and accessories is described in 24-page illustrated Catalog D-520-A. General purpose and production bars for line and stub boring range in diameter from 1½ to 7 in. and in length to 204 in.

For more details circle NED-905 B1 on enclosed inquiry slip

Gearmotors & Speed Reducers

Howell Electric Motors Co.—Single, double, and triple reduction gearmotors from 1 to 150 hp, with speeds as low as 7.5 rpm are available in AGMA Classes I, II, and III in open, enclosed, and explosion-proof housings. They are described in 6-page Bulletin MD-1. Also covered are Line-O-Drive coupled speed reducers from 1 to 75 hp, with outputs as low as 1.2 rpm, in various mountings and enclosures.

For more details circle NED-906 B1 on enclosed inquiry slip

Roller Chain, Sprockets & Couplings

Diamond Chain Co.—New and higher ARSCM horsepower ratings for stock roller chain, sprockets, and couplings are carried in Catalog 760. Chain can now be used in a broader range of applications because of the greater loads which can be transmitted at higher speeds. New products described are Dura-Weld top plate conveyor chain, Tuf-Flex heavy duty roller chain, Micropitch miniature roller chain, and Hi-Cap flexible couplings.

For more details circle NED-907 B1 on enclosed inquiry slip

First Aid Kits

Otis Clapp & Son Inc.—Line of first aid kits and pharmaceutical supplies for industrial use is described in this 28-page catalog. It contains a price list and prepaid order cards.

For more details circle NED-909 B1 on enclosed inquiry slip

Power Tools & Accessories

Rockwell Mfg. Co., Delta Power Tool Div.—Specifications and descriptions of the Delta line of drill presses, grinders, shapers, planers, jointers, metal and wood lathes, tilting arbor saws, unisaws, band saws, and radial saws are found in revised 92-page illustrated Catalog AB-60-2. Accessories for all tools are included.

For more details circle NED-910 B1 on enclosed inquiry slip

Die Springs & Accessories

Producto Machine Co.—Catalog and separate price list covers a broad line of die springs and accessories; including square and oval wire springs; chrome-vanadium die springs in three load and deflection ratings; music wire spring in 40 sizes; die rubber; cap screws; stripper bolts; and dowel pins.

For more details circle NED-911 B1 on enclosed inquiry slip

Transformers

Sterling Transformer Corp.—Details for specifying transformers for power supplies and for temperature rise measurements on transformers are found in 12-page illustrated brochure. Dielectric strength test voltages and working voltage definitions and calculation are explained. Company products and facilities are described.

For more details circle NED-912 B1 on enclosed inquiry slip

Servicing Lubricated Valves

Rockwell Mfg. Co., Meter & Valve Div.—Step-by-step illustrations and text of 8-page Bulletin V-218 detail the proper method of lubricating Rockwell-Nordstrom plug valves. Their adjustment and repacking is also covered, and a chart gives recommended lubricants. Lubricant dispensers are described.

For more details circle NED-913 B1 on enclosed inquiry slip

Electric Disc Brakes

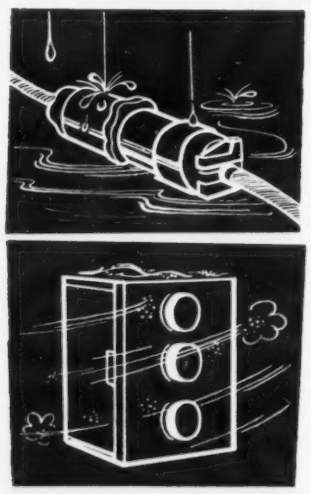
Stearns Electric Corp.—Torque ranges from 1 to 3, 1½ to 15, 10 to 105, and 125 to 575 lb-ft are available in the line of magnetic disc brakes described in 8-page illustrated Bulletin 605. Each series is designed to fit certain NEMA motor frames. Engineering and dimensional data are included for motor and floor mounted units bearing various UL listings.

For more details circle NED-914 B1 on enclosed inquiry slip

Silicone Modified Rubber

Stoner Rubber Co.—48-page illustrated technical manual explains the applications of silicone modified rubber in the rocket, missile, and other fields. Data are included on compounds, insulation, and plastic laminates. Properties and test data are given for each grade.

For more details circle NED-915 B1 on enclosed inquiry slip



SILICONES SEAL-OUT TROUBLE

Dow Corning SILICONE COMPOUNDS seal out condensation, dust, fly ash, alkalis, acids, corrosive fumes and other contaminants . . . prevent grounds, shorts and arcs . . . lubricate and protect gaskets on special enclosures.

Keep an applicator tube handy to fill voids, coat surfaces, lubricate gaskets and threads — to apply wherever contaminants could cause trouble.

FREE SAMPLE and information. Write today. Dept. 5814.

first in silicones
Dow Corning CORPORATION
MIDLAND, MICHIGAN

For more details circle NED-901 B1 on enclosed inquiry slip

New Gleason POWERTRAK Increases Cable, Hose Life on your Equipment-in-Motion!

Write for suggestions on profitable POWERTRAK applications to your Equipment-in-motion

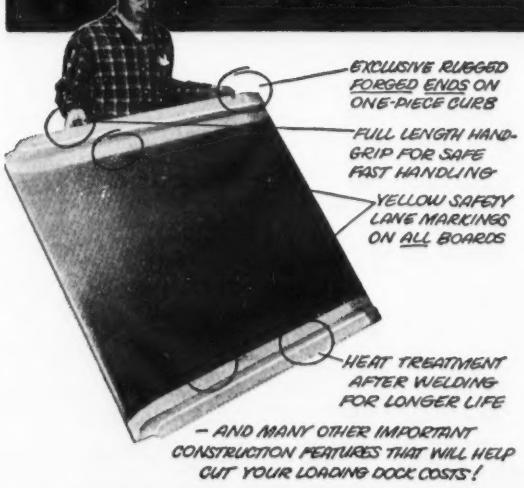
Your equipment will benefit with POWERTRAK—amazing patented invention for carrying power cable or hose to and with equipment in motion. Offers many advantages on machine tools, lathes, grinders, planers, presses, cranes and others. Protects power cables, oil, gas, and air hoses against wear from bending, crushing, abrasion, friction, pulling stresses and strains. Avoids machine downtime and cable or hose replacement expense.

POWERTRAK saves space, permits more flexibility in machine design. Handles multiple cable and hose up to 2½" diameter, up to 70 feet of travel, at moving speeds up to 300 feet per minute.

Gleason Reel Corp
Exclusive Licensees for United States, Canada, Mexico
Dept. A, 800 Horicon St., Mayville, Wis.
TAKE-UP REEL HEADQUARTERS FOR ALL INDUSTRY

For more details circle NED-908 B1 on enclosed inquiry slip

Only BROOKS & PERKINS MAGNESIUM DOCKBOARDS have all these advantages



— AND MANY OTHER IMPORTANT CONSTRUCTION FEATURES THAT WILL HELP CUT YOUR LOADING DOCK COSTS!

Compare the B & P Dockboard features before you place your next order. Write today for the fact-packed B & P Dockboard folder!

BROOKS & PERKINS, Inc.
1928 WEST FORT STREET • DETROIT 16, MICHIGAN

MANUFACTURERS OF LIGHT WEIGHT PRODUCTS AND ASSEMBLIES

For more details circle NED-916 B1 on enclosed inquiry slip

New Processes & Materials

PAINT SELECTOR
shows right paint for any job

Simple turn of the wheel on this Dial-A-Paint selector shows the correct paint for any interior, exterior, or metal surface. Sized for desk or drawing board reference use, selector eliminates thumbing through catalogs to find the right paint for any of 29 different jobs. Paint job classifications range from copper screen gutters to acoustical tile and plaster, and from machinery and metal implements to masonry walls and trim. • **Luminall Paints**, 3617 S. May St., Chicago 9, Ill.

▲ For more details circle **NED-917 B1** on enclosed inquiry slip ▲

PRIMER
for organosols and plastisols

Excellent color retention and resistance to salt spray and humidity are exhibited by Armitage P-289 Primer for use with plastisols, organosols, and Armorhide textured vinyl finishes. Adhesion to substrates such as steel, aluminum, galvanized metal, and glass is outstanding. Spray or dip-applied, primer can be air-flashed or baked. Drying time is from 5 to 15 min. Clear or pigmented samples are available for testing. • **John L. Armitage & Co.**, 245 Thomas St., Newark 5, N. J.

▲ For more details circle **NED-918 B1** on enclosed inquiry slip ▲

FLOOR RESURFACER
for concrete, wood, metal floors

High resistance to chemicals, rapid curing, permanent color, and easy application are features of Tripoxy cold process floor resurfacing and patching material. It permanently adheres to concrete, wood, and metal floors, and has considerably higher toughness and abrasion resistance than heavy duty concrete. An epoxy resin binder, pigmented hardener, and a special sand aggregate are packaged in a single fiberboard container in several quantities. Application is without special tools in a 1/4-in. thick layer. It takes foot traffic in 4 to 8 hr, medium-heavy traffic in 10 to 15 hr, and the heaviest traffic in 3 days. Material may be troweled smooth or to any degree of roughness. • **Masury-Young Co.**, 76 Roland St., Boston 29, Mass.

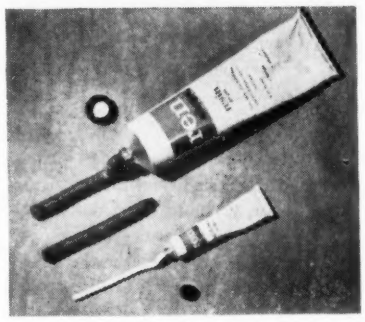
▲ For more details circle **NED-919 B1** on enclosed inquiry slip ▲

LIQUID SILICONE RUBBER
packaged in 16-oz aerosol cans

Thin, uniform encapsulating coating applied on electronic assemblies is typical use for RTV-60, a red liquid silicone rubber available in aerosol spray form. Other uses include spray coating for easy release of molded plastic parts and in maintenance and other applications where thin, thermal, protective, shock absorbent, or nonconductive coatings are desired. The room temperature vulcanizing product has good physical and electrical properties, is usable from −65 to 600° F, and resists many solvents and ozone. It has good bonding ability and its own "built in" release agent. Cure time varies from 15 min to several hours, depending upon amount and type of catalyst used. Spray is applied directly to the desired surface from the 16-oz aerosol can. • **General Electric Co.**, Silicone Products Dept., Waterford, N. Y.

▲ For more details circle **NED-921 B1** on enclosed inquiry slip ▲

EPOXY RESIN CEMENT
for tooling, pattern making



Ren - Shape epoxy resin paste material for tooling and master model and pattern making is now packaged in easy-to-use tubes for small quantity use. The two - part, carvable, dimensionally stable, and easily worked material is used for building and duplicating male and female parts, or as a repair or rebuilding material. Equal-length ribbons of resin and hardener are squeezed out of their respective tubes and mixed. The correct ratio is thus assured. • **Ren Plastics, Inc.**, Dept. RP-78, 5422 S. Cedar Rd., Lansing 9, Mich.

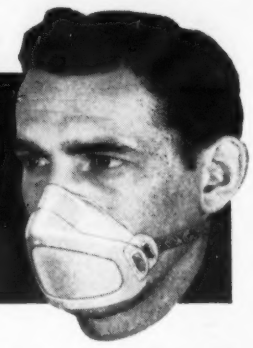
▲ For more details circle **NED-922 B1** on enclosed inquiry slip ▲

HOT PUNCHING LAMINATE
for severe jack spacer applications

Superior cold flow characteristics of Panelyte Grade 825 hot punching laminate allows its use in severe jack spacer applications. Laminate has excellent mechanical properties, low water absorption and cold flow, and good electrical insulating properties. It is available in natural color only, in semi or dull finish, and in sheet size of 36 x 48 in. Thicknesses range from 1/32 to 1/4 in. • **St. Regis Paper Co.**, Panelyte Div., Dept. WMG, N. Enterprise Avenue, Trenton 8, N. J.

▲ For more details circle **NED-923 B1** on enclosed inquiry slip ▲

FLEX-A-FOAM
DUST MASKS



Here's everything that management and worker alike could possibly want in a dust respirator!

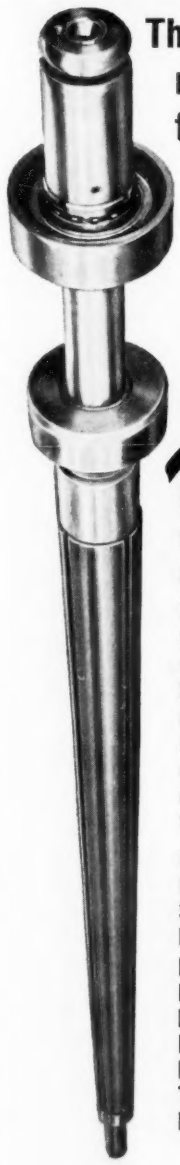
1. **Form-fitting design:** Self-adjusting to any size and shape of face without pressure or irritating discomfort.
2. **Attractive styling:** Smartly designed to suit the most discriminating wearer.
3. **Filtering efficiency:** Filters non-toxic dusts 100 times smaller than the eye can see.
4. **Easy-breathing comfort:** Easier to breathe through and talk through than an ordinary pocket handkerchief.
5. **Feather-like weight:** Weighs only 1 ounce complete.
6. **Simplicity and economy:** Only 4 tough, long-wearing, inter-locking parts — all washable. Pure latex filter outwears throw-away type more than 100 to 1.

No wonder FLEX-A-FOAM is the one dust respirator workers welcome and WEAR!

Sample only $1.45 postpaid (Industrial price only)

FLEX-A-FOAM DUST MASK
FLEXO PRODUCTS, INC.
Westlake, Ohio

▲ For more details circle **NED-924 B1** on enclosed inquiry slip ▲



These famous shafts mean easier roll handling, faster, at lower cost!

Tidland
PNEUMATIC SHAFTS
for all roll winding, and unwind equipment

Light, strong, easy-to-use for fast set-ups. Positive uniform, non-slip grip. No damage to cores or material. Collapsible, instant release! A complete line, custom-fitted to any need, any length, any diameter, for any size rolls.

LEAF-TYPE
LUG-TYPE AND
SPECIAL SHAFTS
FOR:
PAPER,
PAPERBOARD,
PLASTIC FILMS,
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LAMINATES,
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AA-366

▲ For more details circle **NED-925 B1** on enclosed inquiry slip ▲

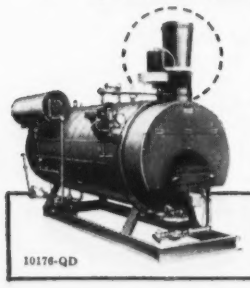
HIGHER COMBUSTION EFFICIENCY!
LOWER MAINTENANCE COSTS!
NO MOTORS, FANS OR BEARINGS IN EXHAUST LINE
PERFECT DRAFT-CONTROL BY Quickdraft

★ EXTREMELY HIGH NEGATIVE PRESSURES
★ ACID RESISTING FINISHES
★ HIGHLY EFFICIENT WITHOUT CHIMNEY

Patents
U.S. 2,722,372 and 2,855,874
British 802,920
Canadian 593,817
Other patents pending

FOR INDUSTRY . . . Now you can boost the combustion efficiency of your boilers, regardless of the fuel you use. Quickdraft power-draft units provide instant controlled draft and completely remove all combustion, corrosive and noxious fumes at high temperature without passing them through the blower and motor. Maintenance costs are drastically reduced. Specify a Quickdraft unit to meet your particular requirements from a wide selection of various sizes.

FOR INSTITUTIONAL AND COMMERCIAL BUILDINGS . . . Quickdraft eliminates costly, tall and unsightly stacks. Vent incinerators, heating plants and water heaters at roof level . . . safely and efficiently.



One of many actual installations with or without chimney.

FOR CORROSIVE SERVICE
All Quickdraft units are available in standard acid resisting vitreous enamel, 316 stainless steel, carpenter 20 rigid plastics (P.V.C), and with plastic or Fiberglas coatings.

Write for QUICKDRAFT ENGINEERING DATA on your letterhead . . . today

Quickdraft CORPORATION
P.O. Box 87-L • Canton 1, Ohio

MANUFACTURERS OF ALL TYPES OF MATERIAL HANDLING UNITS WITH EXTREMELY HIGH VELOCITIES.

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One Hoffman Bit Drills Up to 15,000 Godet Wheels With No Downtime

Up to 15,000 Godet Wheels drilled with center hole tolerance 1.5 min. to 1.53 max.—with one Hoffman Laboratory Bit. Actual production figures that are being duplicated by many Hoffman Bit users for precision drilling of glass, ceramics, quartz, etc. Diamond impregnated or oriented surface set.

Write for Literature and Prices—FREE—Ask about Hoffman Diamond Impregnated Metal Coring Bits and Diamond Segmented Circular Saws

HOFFMAN BROS. DRILLING CO.
SINCE 1902
106 Cedar Street PUNXSUTAWNEY, PENNA.

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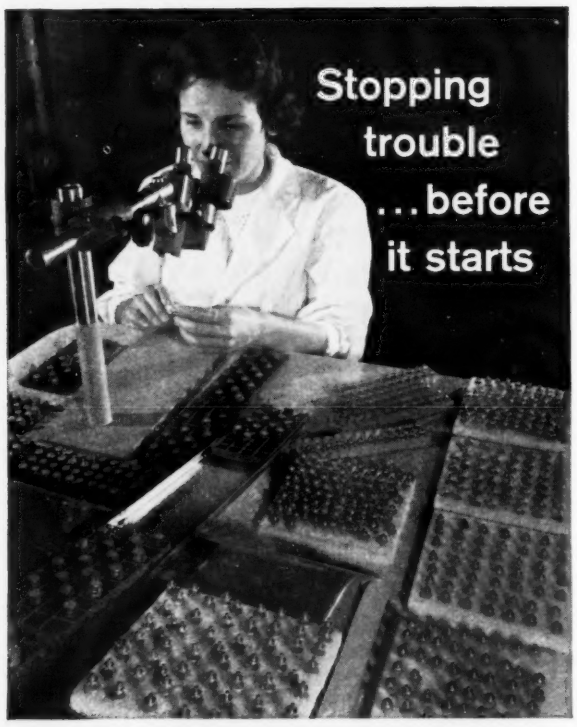


B&L Stereomicroscopes help RCA keep quality high

RCA's new thimble-sized nuvistor electron tube improves TV reception in difficult areas. It does so many jobs so well that industry's demands have increased production 800% within a few months of its introduction.

The tube's function is critical. It has to work right. Here's one way RCA makes sure: "On the important brazing inspection, the Company uses Bausch & Lomb Stereomicroscopes . . . thereby assuring a higher degree of quality control."

Add B&L Stereomicroscopes to *your* work force. Choose from the most complete line serving industry. And take a *good* look at the new B&L StereoZoom® Microscopes. They show you clear, bright 3-D views of your work, at *any* magnification within the entire range (available from 3.5× to 120×). You can count on lower operator fatigue, higher efficiency, in precision assembly and inspection.

Made in America, to the world's highest standard.

BAUSCH & LOMB SINCE 1853

BAUSCH & LOMB INCORPORATED
72714 Bausch St., Rochester 2, N. Y.
☐ Schedule a demonstration at my convenience.
☐ Send new B&L StereoZoom Catalog D-15.
Name, Title.....
Company.....
Address.....
City..... Zone..... State.....

▲ For more details circle NED-931 B1 on enclosed inquiry slip ▲

New Literature & Catalogs

Rotary Screw-Type Pumps

De Laval Steam Turbine Co.—IMO rotary screw-type pumps for processing, power hydraulics, fuel and lubricating oil applications, and viscous and fire resistant fluids are offered in ratings to 3000 psi and flows to 4000 gpm. The 42-page Bulletin 3200 is a selection guide to these high-speed pumps.

▲ For more details circle NED-932 B1 on enclosed inquiry slip ▲

Overhead Materials Handling Equipment

Cleveland Crane & Engineering Co., Cleveland Tramrail Div.—Up-to-date information for those interested in overhead materials handling is provided in 12-page Booklet 2008-Q. It describes various types of carriers, cranes, tractors, track switches, grabs, and electrification. Studies of track design, peening, and stresses are detailed.

▲ For more details circle NED-933 B1 on enclosed inquiry slip ▲

Fluid Processing Equipment

Pfaudler Permutit Inc.—"Fluidics" is title of 16-page Bulletin 992, a buyer's guide to equipment and services for handling and processing liquids and gases. Covered are equipment for reactions, distillation and evaporation, drying and blending, centrifuging, heat transfer, filling, storage agitation, valving and piping, as well as equipment for water treatment, ion exchange, gas analysis, flow rate metering and control, and waste treatment.

▲ For more details circle NED-934 B1 on enclosed inquiry slip ▲

Hydraulic Standards Revisions

Owners of the "Standards of the Hydraulic Institute" can now obtain page revisions to bring the book up to date. Standards cover centrifugal, rotary, and reciprocating pumps. Price of the First Revision is $1.25 per set; with the complete Standards, including revised pages, selling for $6.00. Write the Hydraulic Institute, 122 E. 42nd St., New York 17, N. Y.

▲ For more details circle NED-935 B1 on enclosed inquiry slip ▲

Precision Electrical Switches

Illinois Tool Works, Licon Div.—An unusual 4-page technical discussion of switches and switch terminology is featured in 32-page Form 1110 on precision electrical switches. All of Licon's basic snap-action switches, miniature and 10-amp rated subminiature units, heavy duty models, enclosed limit switches, and auxiliary actuators are described.

▲ For more details circle NED-936 B1 on enclosed inquiry slip ▲

Band & Circular Saws

Peerless Saw Co.—New literature offered includes Bulletin 60 on narrow band saws, amply supplemented with photos and specifications, and Bulletin 70 on industrial type band and circular saw blades. Latter describes rip, cut-off, ground planer, hollow ground, metal cutting, and combination blades.

▲ For more details circle NED-937 B1 on enclosed inquiry slip ▲

S-T-R-E-T-C-H MACHINE HOURS KNOW YOUR SPEEDS use JONES TACHOMETERS

Jones Tachometer with Large 10" Diameter Dial

Assure Higher Production — Quality Control Increased Economy — Safety

SERVING MANY INDUSTRIES: textiles, plastics, chemical, rubber, paper and film, box and boxboard, automobile, marine, pulp and paper, railroad, and many others.

GUARANTEED ACCURACY: superior construction, trouble-free, unaffected by moisture, temperatures, electric currents. Reads in R.P.M. Y.P.M. F.P.M. G.P.M. etc.

GREATEST VISIBILITY: Dial sizes 3" to 20"—reading range, full 360°.

You will find them indispensable, as numerous others have, for use on all types of industrial machines.

Write for catalog J

JONES MOTROLA CORP.
Stamford, Conn.

▲ For more details circle NED-938 B1 on enclosed inquiry slip ▲

Gas Handling Silencers

Silence, Inc.—Noise output of gas handling machinery is reduced by Silentflow gas handling industrial silencers described in 4-page Bulletin B-13. Typical noise sources where silencers are used are axial flow fans, cooling tower intake and exhaust, gas turbine intake and exhaust, oxygen and air blowoff valves, diesel engine exhaust, and jet engine intakes.

▲ For more details circle NED-939 B1 on enclosed inquiry slip ▲

Chemical Resistant Floors, Linings & Coatings

Ralph V. Rulon, Inc.—Thirty corrosion resistant materials for use on floors, as linings for tanks and vats, and as protective coatings are subject of 8-page Bulletin 604. Properties, applications, and installation procedures are outlined.

▲ For more details circle NED-940 B1 on enclosed inquiry slip ▲

Die Stamped Circuits

Dytronics, Inc.—"Designing With Die Stamped Circuits" is title of 12-page Booklet D1 which points up advantages of these printed-type circuits which are made by die-cutting the conductor pattern from copper foil coated on one side with a thermoresponsive adhesive and bonding it to the base material. Produced mechanically, these circuits are reportedly uniform and free of breaks and under cutting. Design hints are included.

▲ For more details circle NED-941 B1 on enclosed inquiry slip ▲

Protective Coatings

Koppers Co., Tar Products Div.—Solutions to a wide variety of corrosion and deterioration problems are offered in 8-page Bulletin T-97-61 on Bitumastic Cold-Applied protective coatings. Applied with brush, spray, or roller, coatings are designed to meet specific corrosive conditions.

▲ For more details circle NED-942 B1 on enclosed inquiry slip ▲

Packaged Liquid Chiller

American Radiator & Standard Sanitary Corp., American-Standard Industrial Div.—10-page illustrated Bulletin 3926 presents data on the new Versare hermetic packaged liquid chiller line. Tonnage ratings range from 22.4 to 67.1.

▲ For more details circle NED-943 B1 on enclosed inquiry slip ▲

Hydraulic Jacks & Pullers

Templeton, Kenly & Co.—Descriptions, where and how to use guidance, and dimensions of hydraulic jacks, Simplex Jenny pullers, Rol-Toe lift jacks, Re-Mo-Trol jacks and pullers, and push-pull and two and three-grip pullers are contained in 16-page catalog.

▲ For more details circle NED-944 B1 on enclosed inquiry slip ▲

Indexing Tables

AA Gage Co.—Technical specs and typical uses for precision Ultradex indexing tables are given in 12-page Catalog U-100. Tables are usable on machine tools, for inspection setups, or for other purposes. These 7, 12, and 24-in. diameter models with horizontal or right-angle bases are accurate within 1/4 second of arc.

▲ For more details circle NED-945 B1 on enclosed inquiry slip ▲

New pneumatic strapping tools . . . increase output by 50%

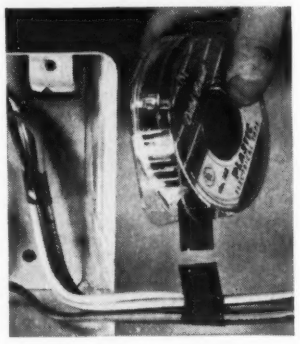
Here's the ultimate in pneumatic stretchers. Timed in field tests these tools were able to cut strapping time up to 50%. Amongst their many features, the new tools offer adjustable controlled tension . . . are able to take various sizes of strapping . . . will operate well on a small surface. Full details and specifications available on request. Circle reader service card or write:

A.J. GERRARD & COMPANY STRAPPING MATERIALS
410 East Touhy Avenue • DES PLAINES, ILLINOIS

▲ For more details circle NED-946 B1 on enclosed inquiry slip ▲

New Processes & Materials

PLASTIC ELECTRICAL TAPE
dispenser punctures and slices tape



Improved transparent Lucite dispenser in which Dutch Brand plastic electrical tape is now available cuts the tape in an unusual puncture-and-slice manner which needs only one-hand manipulation. Tape is not stretched during cutting. Each dispenser contains 66 ft of ¾-in. wide, 7-mil thick vinyl tape which exhibits good adhesion and conformability. It resists galvanic corrosion, rot, mildew, and weathering and withstands exposure to water, oil, grease, alkalies, and alcohol. Tape has high tensile strength at up to 80° C. • **Johns-Manville Corp.**, Dutch Brand Div., 22 E. 40th St., New York 16, N. Y.

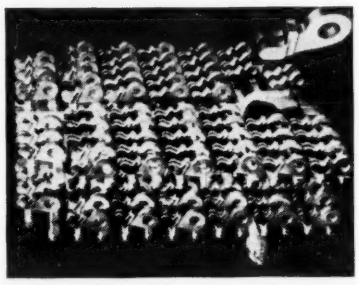
▲ For more details circle **NED-947 B1** on enclosed inquiry slip ▲

HIGH SPEED DIAZO PAPER
suited for high production rates

A 20 to 25 per cent faster exposure speed with no loss in line density is achieved with No. 214S diazo-blue paper without sacrificing print quality. Paper is formulated with a type of diazo compound that has broad light absorption, making possible rapid exposure without reducing density or contrast. Image is bright blue on a clean white background. • **Tecnifax Corp.**, 195 Appleton St., Hoyloke, Mass.

▲ For more details circle **NED-948 B1** on enclosed inquiry slip ▲

INVESTMENT CASTINGS
are accurate, low cost, nonferrous



A reduction of as much as 50 per cent in cost is reported for nonferrous precision castings produced by the Planar investment process as compared with conventional production methods. Only the disposable pattern is burned out, while the entire system of runners is cast in a single plane by a production cope and drag technique. Burn-out of the low-cost mold material is four times faster than by usual processes. Break-out time is reduced. Surface finishes and tolerances are comparable to conventional investment castings. • **Atlantic Casting & Engineering Corp.**, 810 Bloomfield Ave., Clifton, N. J.

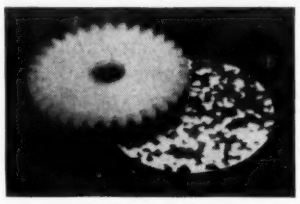
▲ For more details circle **NED-949 B1** on enclosed inquiry slip ▲

CONCENTRATED WETTING AGENT
1 gal makes 100 gal of cleaner

One gallon of Merix Wash Concentrate, diluted with hard or soft water, makes 100 gal of cleaning solution which removes dirt, grit, smudges, and fingermarks and dries spotless and dropfree. Cleaned articles are ready for high-luster painting or other finishing. The wetting agent contains no silicones and can be used to clean plastic, glass, china, rubber articles, and aircraft bodies, as well as metals. The nonflammable, neutral agent ranges in price from $4.95 per lb for the 2-lb quart sample, which makes 25 gallons, to as low as $2.59 per lb for 60 gal and up. • **Merix Chemical Co.**, 2234 E. 75th St., Chicago 49, Ill.

▲ For more details circle **NED-951 B1** on enclosed inquiry slip ▲

THERMOPLASTIC RESIN
resists severe environments



Capable of being extruded and molded into complex shapes, Kynar vinylidene fluoride resin can also be welded and machined. It is mechanically strong and resistant to extreme weather conditions, corrosive chemicals, and distortion and creep over a wide range of temperatures. The flame resistant fluorine-containing thermoplastic is available in molding powder and pelletized resin forms on a semi-commercial basis. Expected applications include pipe and tubing, valve and pump parts, seals and gaskets, tank linings, packaging, and protective coatings. • **Pennsalt Chemicals Corp.**, Research Products Development Dept., Box 4388, Philadelphia 18, Pa.

▲ For more details circle **NED-952 B1** on enclosed inquiry slip ▲

AEROSOL BURN SPRAY
relieves pain, reduces swelling

Quick relief from painful burns is provided by G-63 aerosol spray. Packaged in 8-oz spray cans, it coats the skin instantly with an invisible protective film that isolates the burn and speeds the healing process. Need for bandages is eliminated. The spray reduces swelling and guards against secondary infection with hexachlorophene. Pain is relieved by an analgesic agent. • **General Scientific Equipment Co.**, Box 3038, Philadelphia 50, Pa.

▲ For more details circle **NED-953 B1** on enclosed inquiry slip ▲

YOUR BEST MOVE IS TO MOVE WITH
MERRILL
MATERIAL HANDLING DEVICES FOR THE MOST IN *Safety and Economy*

Imitated, but never duplicated, Merrill Lifting Clamps are Drop Forged to give you Safety in Handling and Economy in Operation.

6 SIZES

FEATURING THIS MONTH . . .

Over 25 Material Handling Devices described in our catalog C-2.
Ask for a copy.

MERRILL TWIN LIFTER

MERRILL BROTHERS
Producers of Drop and Press Forgings
56-13 Arnold Ave., Maspeth, N. Y.
1-60A

▲ For more details circle **NED-955 B1** on enclosed inquiry slip ▲

NEW There IS a Difference
In HIGH VACUUM PUMPING SYSTEMS

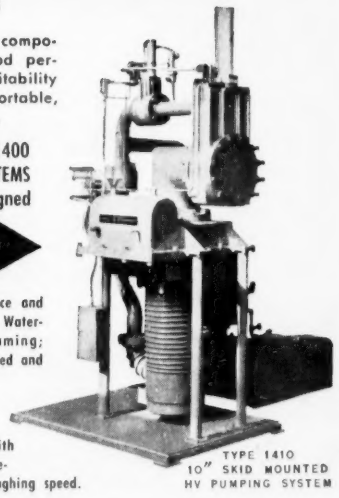
Complete, Factory-Assembled, Tested Pumping Systems

Using only high vacuum components of demonstrated good performance, reliability and suitability . . . Skid mounted or portable, ready for quick installation.

GENERAL VACUUM SERIES 1400 DIFFUSION PUMPING SYSTEMS Incorporate specially designed TWO-STAGE TRAP with Liquid-Nitrogen and Water-Cooled Baffles

This trap provides high conductance and low liquid-nitrogen loss rate. Water-cooled stage reduces backstreaming; liquid-nitrogen stage increases speed and lowers blank-off.

Series 1400 Pumping Systems give you the perfect Pumping Package in sizes from 2" to 32" with high speed backing pumps, or mechanical boosters for maximum roughing speed.



TYPE 1410 10" SKID MOUNTED HV PUMPING SYSTEM

Manual or Automatic Controls. Maximum Accessibility.
Literature on Request

GENERAL VACUUM CORPORATION
HICKS AVENUE, MEDFORD 55, MASSACHUSETTS

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Handles More Air
... with minimum pressure drop

Fewer parts... simplified locking ring provides positive lock... tight fit... minimum wear.

⅛" to ¾" connections. All Series 2-RL Sockets and Plugs are interchangeable – likewise all Series 3-RL Sockets and Plugs. Eliminates any need for various size couplings in hook-up – makes it easy to keep stock of parts in balance – holds inventories to a minimum.

HANSEN SERIES RL QUICK-CONNECTIVE RING LOCK COUPLING

Write for Catalog – a ready reference when you want information on couplings in a hurry.

Instant Automatic Flow or Shut-Off

Representatives in Principal Cities ... See Yellow Pages

THE HANSEN MANUFACTURING COMPANY
4031 WEST 150th STREET • CLEVELAND 35, OHIO

▲ For more details circle **NED-950 B1** on enclosed inquiry slip ▲

Biggest News in Protective Coatings Since 1942...
AMERCOAT No. 99

Amercoat No. 99 offers the time tested protection of vinyl coatings plus virtually foolproof application with cost reductions of up to 42%!*

For application with either airless spray or conventional spray equipment, No. 99 is a companion coating to Amercoat No. 33, the *first* practical vinyl maintenance coating. Introduced in 1942, No. 33 is...after 18 years...still protecting more than 200 million square feet of steel structures in the severest corrosive environments. And now, through exclusive Amercoat technological developments, you can have the proven protection of No. 33 PLUS the cost-cutting advantages of No. 99.

- Highest solids content of non-mastic vinyls
- Applied by airless spray, one cross sprayed coat easily produces a dry film thickness of 6 mils
- Applied with conventional spray equipment, dry film thickness of 5 mils is obtained with just two coats
- Labor savings of more than 50% have been reported, with material costs cut 35%
- Can be applied directly over Dimetcote, giving a two coat system unequalled by any comparable system
- Recommended for use on all types of structural steel, tank exteriors and ships' hulls

You may obtain complete technical data including a cost analysis showing savings you can realize with this coating by writing to Amercoat Corporation, 4809 Firestone Boulevard, South Gate, California.

*Documented user report furnished on request

Amercoat CORPORATION 1289
Dept. ZN, 4809 Firestone Boulevard South Gate, California

921 Pitner Ave. Evanston, Ill. | 360 Carnegie Ave. Kenilworth, N.J. | 111 Colgate Buffalo, N.Y. | 2404 Dennis St. Jacksonville, Fla. | 6530 Supply Row Houston, Tex.

▲ For more details circle **NED-954 B1** on enclosed inquiry slip ▲

Get "RIGHT-SIZE" ECONOMY... "RIGHT-SIZE" CONVENIENCE with
GRACO HYDRA-SPRAY

Why pay for a spray painting unit that's too big . . . or too small . . . when there's a Graco Hydra-Spray that *exactly* fits the job.

Eleven models, stationary, portable and standpipe, from 5 gallon capacities to 55 gallon capacities, comprise the Graco Hydra-Spray line of *airless* spray painting equipment.

See your local Graco dealer for the Hydra-Spray unit that fits your job like a glove!

GRACO ENGINEERS & MANUFACTURERS / GRAY COMPANY, INC. 27 Graco Square Minneapolis 13, Minnesota

See Phone Book Yellow Pages "Spraying" for Graco Suppliers

▲ For more details circle **NED-957 B1** on enclosed inquiry slip ▲

Vibratone HORNS ARE BETTER because—

THEY ARE SELF-TUNING

For maximum performance, a horn must be tuned to correct electric and mechanical balance. For reliability, the sound producing parts must maintain a constant electro-magnetic relationship.

Federal Vibratones are the only self-tuning, self-compensating horns. Even eventual wear from continuous duty doesn't destroy tone, accelerate heat rise, and produce burnout.

Vibratones leave the factory adjusted for maximum sound output. For less noisy or confined areas, they may, at any time, be tuned down to a whisper. Unlike other horns, volume adjustment does not unbalance and shorten the life of a Vibratone.

This is but one of dozens of advantages of the Vibratone over other horns. Specify Federal Vibratones on your signal installation. Investigate. Ask for bulletin 105.

FEDERAL SIGNAL SIGN and Corporation

13611 S. Western Ave. Blue Island, Ill.

For more details circle NED-958 B1 on enclosed inquiry slip

WRITE FOR CIRCULAR 240-B

W-K-M DIVISION OF ACF INDUSTRIES INCORPORATED Dept. Z-2, P. O. BOX 2117, HOUSTON, TEXAS

KP 6001R

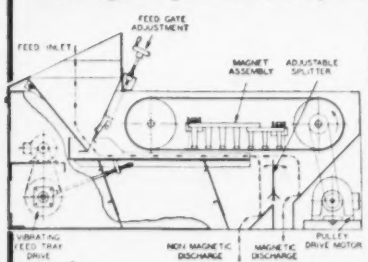
For more details circle NED-959 B1 on enclosed inquiry slip

Get premium prices for non-ferrous chips—

USE DINGS MAGNETIC CHIP SEPARATOR

• Constant magnetic power, guaranteed permanent...requires no electricity. • No coils to burn out. • Automatic separation. • Lightweight and compact. • Easy to install. Plug into ordinary light circuit to operate motors.

Be sure your brass chips or other non-ferrous products are 100% free of contaminating iron particles. Dings Type BNA Magnetic Chip Separator, with magnet assembly arranged for opposite polarity, operates on the principle of selective lifting and agitation of the lifted particles. As they travel from pole to pole, they are turned over and over to shake loose any entangled non-magnetic particles. *Send for Bulletin B-1604.*



HOW IT OPERATES
Vibrating feeder tray passes material under a bank of 7 suspended magnets. Endless belt carries magnetic particles until automatically dropped from last magnetic pole. Non-ferrous chips drop off end of feeder into discharge chute equipped with adjustable splitter.

Dings DINGS MAGNETIC SEPARATOR COMPANY
4758 West Electric Ave., Milwaukee 46, Wis.

For more details circle NED-960 B1 on enclosed inquiry slip

New Literature & Catalogs

Deposited Carbon Resistors

International Resistance Co.—Over 20 charts and diagrams reproduced in 28-page handbook "Performance and Reliability of Molded Deposited Carbon Resistors" illustrate such variables as temperature cycle, short time overload, terminal strength, dry and wet dielectric strength, moisture resistance, and load life. Results of study were obtained from over 37,000 tests.

For more details circle NED-961 B1 on enclosed inquiry slip

Kraft-Veneer Panels

Weyerhaeuser Co., Silvatek Div.—A guide for specifying, working, and applying Ply-Veneer panels includes photos and sketches of end uses and how-to steps. It is a kraft-overlaid veneer sandwich panel suited for wall paneling, ceiling tile backing, room dividers, partitions, and screens. Material is easily worked with ordinary woodworking tools and can be painted.

For more details circle NED-962 B1 on enclosed inquiry slip

Vacation Calendar & Almanac

Manpower, Inc.—This businessman's almanac and vacation calendar provides space to list appointments, has sections on the use of office equipment and supplies, covers the moving, shipping, and storage of various items, and includes a section on maintaining efficiency during an office emergency. A reminder of due dates for taxes is included, along with a run-down on the real overall cost of a $1.50-per-hour employee.

For more details circle NED-963 B1 on enclosed inquiry slip

Solar & Photocells

Chapters on basic photovoltaic theory, nomenclature, radiation theory, photocell performance characteristics, power supplies, photometers, relays, photoelectric camera control, and infrared and ultraviolet photocell applications are contained in 100-page illustrated "Solar Cell and Photocell Handbook." It contains over 75 practical light-operated circuits, projects, and demonstrations of both selenium photocells and silicon solar cells. Price is $2. Write direct to International Rectifier Corp., 1521 E. Grand Ave., El Segundo, Calif.

For more details circle NED-964 B1 on enclosed inquiry slip

Aluminum Hand Trucks

Rol-Away Truck Mfg. Co.—Extensive line of lightweight hand trucks, made of aluminum alloy for the handling of pipe, tube, extrusions, plate glass, sheet metal, plywood, and other types of merchandise and parts, is subject of pocket-size illustrated Bulletin 108. Included are stock picking, ladder, tray, flat rack, crate handling, and maintenance trucks.

For more details circle NED-965 B1 on enclosed inquiry slip

Controlled Volume Pumps

Milton Roy Co.—Motor-driven controlled volume pumps described in 30-page Bulletin 553-2 are reciprocating, positive displacement units which will meter liquids accurately within ±1 per cent. Capacities range from milliliters per hour to 45 gpm at pressures up to 7500 psi. Selection data and capacity-pressure tables are provided.

For more details circle NED-966 B1 on enclosed inquiry slip

Flow Control Valves

Ladish Co., Tri-Clover Div.—Full line of air-actuated flow-control valves for food and processing industries is reviewed in 36-page Catalog F 60. Data cover throttling, kettle, and tank valves, and drawings demonstrate how valves are used, controlled, and installed.

For more details circle NED-967 B1 on enclosed inquiry slip

Glass-Lined Smokestacks

A. O. Smith Corp., Atomic & Process Equipment Div.—How company's glass-protected smokestacks compare with plain unlined steel and brick or gunned-concrete stacks is revealed in 8-page Bulletin SS-210. Available in eight different colors, these stacks feature a fused glass lining that is virtually impervious to corrosion.

For more details circle NED-968 B1 on enclosed inquiry slip

Screw Machine Products

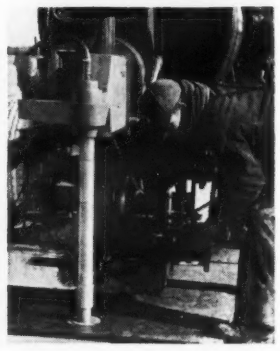
Northwest Automatic Products Corp.—Ways to cut costs of machine screw products without cutting quality are pointed out in 8-page Booklet 9891. The brochure outlines company's facilities, its engineering service, and its quality control methods and policies.

For more details circle NED-969 B1 on enclosed inquiry slip

TRUCO® DOES IT AGAIN!

80% cost reduction in airport runway lighting by installation of pancake lights

Cutting slot raceways for wiring.



Drilling holes for light units.

Truco "pancake" diamond drill on Truco Model G, gasoline powered, truck-mounted drill rig cut holes for light units 6" dia. x 1" deep. Truco Concrete Saw with 14" Truco diamond blades sawed miles of slots for wiring raceways in both bituminous and portland cement concrete runways. Even greater savings now possible using new Tru-Vac® Vacuum Pad to anchor drill rig in seconds. Write for our new Catalog.

TRUCO MASONRY DRILLING DIVISION
WHEEL TRUEING TOOL COMPANY
178-3200 W. Davison, Detroit 38, Mich. • 575 Langlois, Windsor, Ont.

For more details circle NED-970 B1 on enclosed inquiry slip

Pays for itself in two months

Turbo-Sweep for dust control

Parker All Surface Sweeper

This fast, efficient manual sweeper cuts sweeping time by hours . . . saves on wages, one man does the work of ten! 20 and 28-inch widths.* **Optional Rota-brushes extend sweeping widths to 40".**

Self-Propelled, 20", 28" widths.*

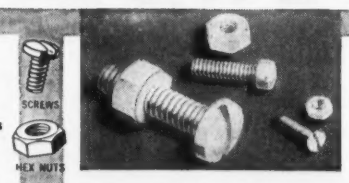
FREE DEMONSTRATION in your own plant
Manufactured by the makers of famous Parker Lawn Sweepers
PARKER SWEEPER CO. • SPRINGFIELD, OHIO

For more details circle NED-971 B1 on enclosed inquiry slip

NEW NYLON & THERMO-PLASTIC parts from GRC

Economically mass produced on fully automatic patented machines, GRC nylon parts are available from stock in many sizes and types. GRC uses single cavity techniques, molds in one automatic cycle, gets accurate, uniform parts.

These advantages, these economies, apply too, to tiny made-to-order parts to your specifications . . . in quantities of 25,000 to many millions. Write for bulletin describing GRC's unique method for injection molding small plastic parts or send prints for quotations. Ask about our zinc alloy die castings too!



NYLON SCREWS AND NUTS

GRC's complete line of high quality, close tolerance molded nylon screws and hex nuts include screws in standard commercial heads —Phillips or slotted types—in sizes from #4 thru ¼"; hex nuts in ten sizes (#2 thru 5/16") GRC molded nylon miniature machine screws — half the weight of aluminum — in sizes as small as #0—make more compact designs possible. GRC's single cavity molding technique adds exceptional uniformity, accuracy, economy to nylon's high strength-to-weight ratio, built-in electrical insulating qualities, stability, resilience and elasticity. GRC's molded fasteners are available in Nylon or Delrin in a wide range of types, sizes and lengths.

NO SIZE TOO SMALL
Maximum: 1¼" long —.03 oz.

Write for samples, prices and GRC's New Detailed Industrial Fastener Catalog.

GRIES REPRODUCER CORP. GRIES
World's Foremost Producer of Small Die Castings
143 Beechwood Ave., New Rochelle, N. Y. • NEw Rochelle 3-8600

For more details circle NED-972 B1 on enclosed inquiry slip

We custom-design fixtures to let you...

MARK IN CONFINED AREAS!

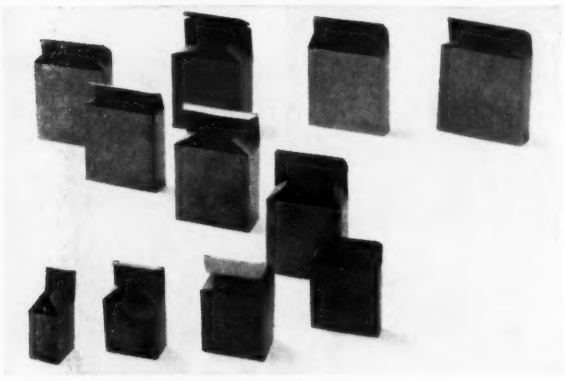
For example, extremely close to flanges—as in the illustration. Send us details on your marking problem and we'll recommend an efficient, economical solution—using a standard or special fixture.

Data Bulletin 683 details Confined-Area Marker shown.

Mecco SAFETY MARKING TOOLS M.E.CUNNINGHAM CO.

1055 CHATEAU STREET, PITTSBURGH 33, PA.

For more details circle NED-973 B1 on enclosed inquiry slip



64 SIZES IN KRAFT FOLDING BOXES

Extra large inventory assures broadest choice, lowest prices, fastest delivery. Partial list of uses, includes machine parts, metal parts, plastic parts, bearings, auto parts, nursery products, hardware. Sizes range from ⅞" x ⅞" x 1" up to 5¾" x 5¼" x 7".

Ask for free samples, with sizes and price list.

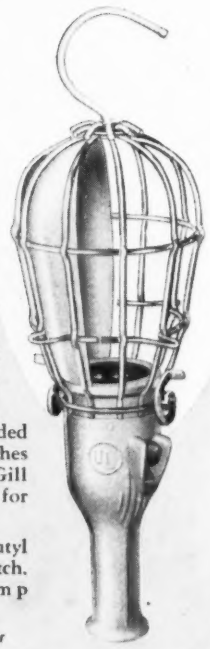
Spark* makes the difference

STONE CONTAINER Corporation
Campbell Division
903 S. Main St., South Bend 23, Ind.
General Offices: 4200 W. 42nd Place, Chicago 32, Ill.

* Stone Packaging And Research Know-how

For more details circle NED-974 B1 on enclosed inquiry slip

RUGGED McGILL® portable lampguards last longer



McGill portable lampguards are designed and built specifically to take the punishment of industrial use. Their use avoids frequent and costly replacement. Extra heavy cages are electrically welded and zinc-plated with chromate finish. Choice of handles include neoprene-butyl, wood and impact resistant molded phenolic. With LEVOLIER switches and 660 watt 250 volt sockets, McGill portables offer much more service for little more in price.

No. 7100-SR Gray neoprene-butyl handle, reflector. No Rol cage switch. Thumb clamp allows quick lamp changing without tools.

Available from your Electrical wholesaler

Write for McGILL catalog No. 84

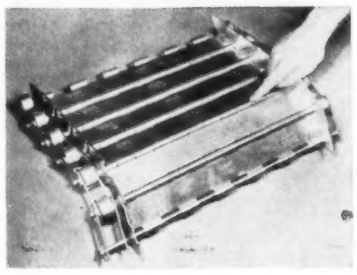
engineered electrical products McGILL® precision needle roller bearings

McGILL MFG. CO., INC., Electrical Div., 151 N. Campbell St., Valparaiso, Ind.

For more details circle NED-975 B1 on enclosed inquiry slip

New Processes & Materials

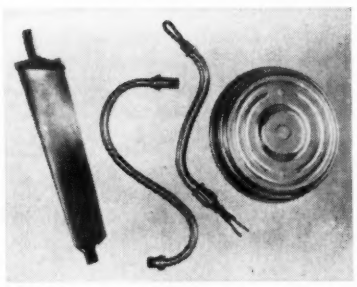
HINGED STEEL BELTING with 2½-in. pitch links



Fabricated from ⅛-in. thick steel, May-Fran hinged-steel conveyor belting features belt links with only 2½-in. pitch (distance between centerlines of link through holes). This shorter pitch allows the assembled belt to run on sprockets with pitch diameter as small as 5 in. Over-all conveyor depth can be as little as 8½ in. Individual links are produced in widths to 18 in., although belts wider than 18 in. can be assembled by threading multiple links on the through rods. Belting handles small but heavy items such as nuts, bolts, stampings, and hot castings. Links for special conveying requirements can be supplied. • **May-Fran Mfg. Co.**, 1710 Clarkstone Rd., Cleveland 12, Ohio.

For more details circle NED-976 B1 on enclosed inquiry slip

FINISH-DIPPING PROCESS parts given uniform coating after cleaning, then are cured in oven



Parts to be coated with paint or other types of films by the Smart Controlled-Withdrawal Dipping Process are hung on flight bars from a constantly moving monorail conveyor that moves them through a power spray washer and phosphatizing unit or a vapor spray degreaser. After a cool-down cycle, the loaded bars are accumulated over a dip tank. A hydraulic mechanism raises the tank to immerse the parts, then immediately retracts. Slow withdrawal causes excess liquid to be drawn off the parts by capillary action and surface tension. The remaining film or paint is uniform and free of drips.

Flight bars are automatically transferred back onto the moving monorail to go through Ross two-zone ovens. The first zone operates at low temperature to evaporate solvents without blistering, and the second has high heat for curing. The flexible process is suited for application of prime and finish coats and also different colors to different objects carried by the same conveyor. It can also be combined with other coating methods. • **Midland-Ross Corp.**, J. O. Ross Engineering Div., 730 Third Ave., New York 17, N. Y.

For more details circle NED-977 B1 on enclosed inquiry slip

FREE

INFORMATIVE APPLICATION DATA ON MOLYKOTE LUBRICANTS. PUBLISHED REGULARLY. SEND FOR YOUR COPY.

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Stamford, Conn.

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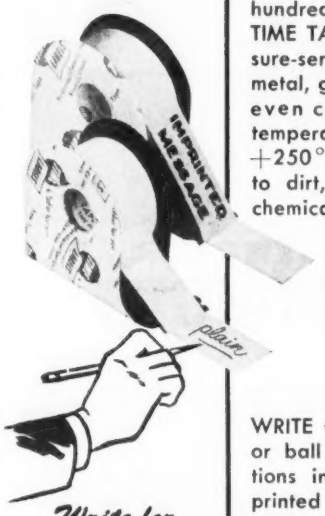
NED-2

THE ALPHA-MOLYKOTE CORP
Stamford, Conn.

For more details circle NED-978 B1 on enclosed inquiry slip

INDUSTRIAL TAPES



Plain or pre-printed labels for hundreds of industrial uses! TIME TAPE & LABELS are pressure-sensitive . . . they stick to metal, glass, plastic, rubber . . . even cloth! They withstand temperatures from −120° to +250° with absolute resistance to dirt, grease, moisture and chemicals.

TIME SELF-STICKING LABELS VINYL COATED

WRITE ON IT! Use pen, pencil or ball point. Unlimited variations in stock or custom pre-printed labels available for numbering, inventory, inspection, etc.

Write for samples and literature!

PROFESSIONAL TAPE CO., INC.
Dept. N.S.P. 355 Burlington, Riverside, Illinois

For more details circle NED-979 B1 on enclosed inquiry slip

CAMPBELL SENTRY SLINGS*
...the Sling Chain that "talks"

The WARNING RING tells you immediately when the sling has been overloaded . . . it elongates visibly . . . before the chain itself is damaged! Your eye *can see* the difference! Greater safety, greater economy!

*Patent Applied For

Write today for Brochure #1022.

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FACTORIES: York, Pa.; West Burlington, Iowa; Union City, Calif.
WAREHOUSES: E. Cambridge, Mass.; Atlanta, Ga.; Dallas, Texas; Chicago, Ill.; Portland, Ore.; Seattle, Wash.; Los Angeles, Calif.

For more details circle NED-980 B1 on enclosed inquiry slip

PAYS FOR ITSELF . . .

CONTROLLED HUMIDITY

WITH LOW-COST WATER OR STEAM

Bahnson UNIT HUMIDIFIERS

Guaranteed Units Insure Quality, Reduce Storage and Production Problems

Full line includes 14 units in various sizes, capacities for your needs, any size area. Units have low first cost, low operating cost, automatic controls. Easy to install from ceilings or on walls.

TYPE E

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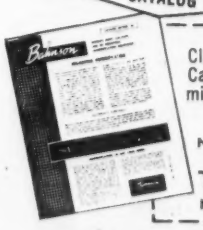


Clip Coupon to Letterhead and Mail Today! Catalog details complete line of 14 humidifiers for your needs, any size area.

NAME _____

THE BAHNSON COMPANY
N-8-F WINSTON-SALEM, N. C., U. S. A.

For more details circle NED-981 B1 on enclosed inquiry slip

"LONG-STROKE"
AIR VIBRATORS

Move Materials on • BINS • HOPPERS • CHUTES

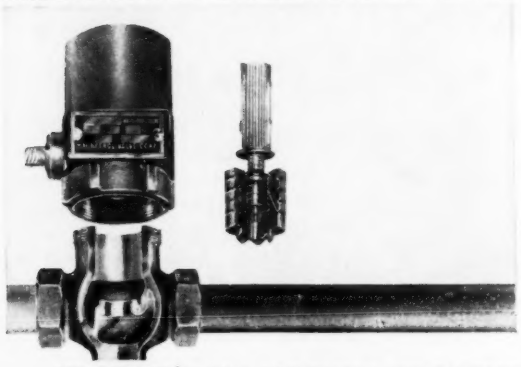
Navco "Long-Stroke" Air Vibrators dislodge arched material with a timed piston impact . . . do not "pack" materials with high frequency vibration. Exclusive patented "one-piece" design eliminates body assembly bolts, cuts vibrator maintenance up to 80%. Easy to install, units will operate in hazardous atmospheres, inclement weather or magnetic dusts.

For application catalog, write Dept. ND2

NAVCO® NATIONAL AIR VIBRATOR CO.
435 Literary Road • Cleveland 13, Ohio

▲ For more details circle NED-986 B1 on enclosed inquiry slip ▲

MAGNATROL SOLENOID VALVES



. . . ARE RUGGEDLY AND ACCURATELY CONSTRUCTED TO GUARD AGAINST COSTLY FLOW FAILURES.

The entire operating mechanism of Magnatrol Solenoid Valves can be **cleaned, repaired** or **replaced** WITHOUT removing the valve body from the pipe line or breaking flexible electrical leads.

This unusual design advantage plus the fact that every Magnatrol Valve is CUSTOM ASSEMBLED and FACTORY TESTED . . . means greater dependability.

Available in normally closed and normally open models, in pipe sizes from ¼" to 3". Pressure ranges from zero up to 500 psi.

Catalog containing complete specifications mailed upon request.

Magnatrol VALVE CORPORATION
Hawthorne 6, New Jersey

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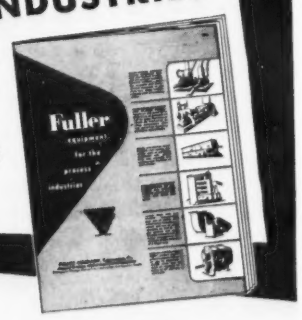
FREE BULLETIN

FULLER EQUIPMENT FOR THE PROCESS INDUSTRIES

12 pages of Photos Diagrams Charts



. . . tell you and show you how to move mountains of dry pulverized, crushed and granular materials to and from, up, over, around and under your plant to storage . . . and from storage to processing points . . . and do it economically.

It's called Fuller Equipment for the Process Industries. Just write for Bulletin G-3 . . . today. 1358 G211

FULLER COMPANY
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Catasauqua, Pa.

Fuller pioneers in harnessing AIR

SUBSIDIARY OF GENERAL AMERICAN TRANSPORTATION CORPORATION
Offices in Principal Cities Throughout The World
"See Chemical Engineering Catalog for details and specifications."

▲ For more details circle NED-988 B1 on enclosed inquiry slip ▲

New Literature & Catalogs

Centrifugal Pumps

Dean Brothers Pumps Inc.—Charts featured in 12-page Circular 184 on centrifugal pumps show recommended temperature and pressure ranges for ten classifications of pumps from −350 to 1000° F and up to 1000 psi. Pumps are intended for industrial, chemical, petroleum, process, and refining services.

▲ For more details circle NED-989 B1 on enclosed inquiry slip ▲

Electronic Components & Hardware

Zoron, Inc.—Complete details as well as list prices on a line of electronic components, connectors, switches, and hardware are contained in 8-page Catalog 1060. Included is information on the use of color-coded connector cables.

▲ For more details circle NED-990 B1 on enclosed inquiry slip ▲

Industrial Hoists

Duff-Norton Co., Coffing Hoist Div.—Specification tables for all models in lever, power (electric and air), and hand chain industrial hoists are provided in 8-page Catalog 600. Rated capacities range from ⅛ to 25 tons. Accessories and I-beam trolley attachments are also covered.

▲ For more details circle NED-991 B1 on enclosed inquiry slip ▲

Measuring Speed Electrically

Meriam Instrument Co.—Usable in hazardous or nonhazardous locations, the I-L-S three-phase speed measurement system covers a range of 35 to 35,000 rpm. Bulletin 1000 describes the electric tachometer generators, electric tachometer indicators, explosion-proof housings, and electro-mechanical vibrators which comprise the system.

▲ For more details circle NED-992 B1 on enclosed inquiry slip ▲

Photosensitive Devices

Data are given for 151 different photosensitive devices, including phototubes, photocells, image-converter tubes, camera tubes, storage tubes, cathode-ray tubes, and special kinescopes in 36-page Bulletin CRPD-105B. Latest JEDEC spectral energy-emission curves and persistence descriptions of phosphors are given. Price is 50 cents. Write to Radio Corp. of America, Electron Tube Div., Harrison, N. J.

▲ For more details circle NED-993 B1 on enclosed inquiry slip ▲

Stand-Off Fasteners

Western Sky Industries—Used to support tubing, wire bundles, conduit, equipment, and instruments, a complete line of stand-off fasteners is detailed in 20-page bulletin. Such factors as design considerations, reducing installation costs, how to select fasteners, and solution of problems are treated in this guide book entitled "What You Should Know About Stand-Off Fasteners."

▲ For more details circle NED-994 B1 on enclosed inquiry slip ▲

Material Handling Ideas

Barrett-Cravens Co.—16-page illustrated Bulletin 552 outlines practical methods of material handling and depicts profitable ideas. Pictorial case studies are cited on the industrial plant use of hand and power lift trucks and elevating equipment.

▲ For more details circle NED-995 B1 on enclosed inquiry slip ▲

Precision Screw Machine Tooling

Marcellus Mfg. Co.—32-page manual "Precision Screw Machine Tooling" presents details and dimensions on adapter bushings, cam rollers and pins, recessing tools, cut-off blades and holders, stock knurls, tool holders, and many other accessories for screw machine use.

▲ For more details circle NED-996 B1 on enclosed inquiry slip ▲

Clamps To Speed Production

Detroit Stamping Co.—Toggle clamps for practically every production holding need are detailed in 36-page Catalog 77. Designed as a "job aid" for tool and manufacturing engineers and as a guide for purchasing agents, this book is well illustrated and includes dimensioned templates to aid in layout and planning.

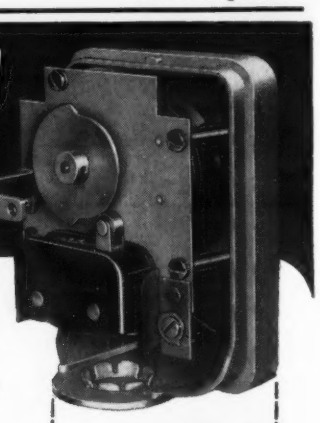
▲ For more details circle NED-997 B1 on enclosed inquiry slip ▲

Photocopying Guidance

Haloid Xerox Inc.—Users of photocopying machines and papers will find practical information on machines and techniques for this economical reproduction method in 16-page Bulletin 222. A section is allotted to photocopy chemicals. Types of photocopies that are legally prohibited by Congress are listed.

▲ For more details circle NED-998 B1 on enclosed inquiry slip ▲

HAGEN repeat cycle timers . . .



FOR INTERRUPTING ELECTRIC CIRCUITS AT A PRE-ARRANGED TIME SETTING

★ Split Cams for variable percentage setting
★ Time cycles from 1 sec. to 60 min.
★ Contact Rating 15 Amps. at 115 V. AC. 7.5 Amps. at 440 V. AC.

Ideal for grease injection, motor control, humidifiers, signal lights, pulsing circuits, vending machine and appliance control. One and two circuit models available.

MODEL 71

ENCLOSED

Write for Bulletin 1310 for complete specifications and types available. Address Dept. NED-261.

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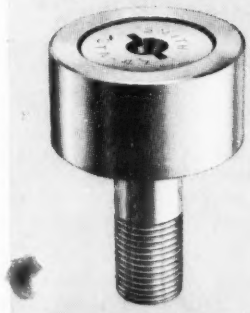
Of The Gamewell Company
AN E. W. BLISS COMPANY SUBSIDIARY

▲ For more details circle NED-999 B1 on enclosed inquiry slip ▲

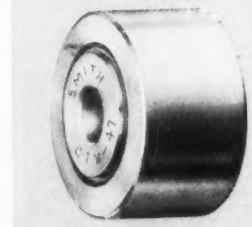
SMITH

CAM FOLLOWERS AND YOKE ROLLERS

HCS CAM FOLLOWER



CTA CAM FOLLOWER



CTY YOKE ROLLER

Precision Made For Precise Performance

Each component of Smith Cam Followers and Yoke Rollers is carefully engineered, machined and finished to the most exacting standards and dimensions. As a result, each Standard Smith Cam Followers and Yoke Roller is identical to all others of the same series and size.

Such uniformity of product results in equal uniformity of performance.

Standard Smith "CTA" (interchangeable) or "HCS" (High Capacity Stud) Cam Followers and "CTY" Yoke Rollers, assure you of outstanding performance with long, trouble-free life.

Special Smith Cam Followers and Yoke Rollers to suit special applications are supplied promptly.

Better distributors throughout the nation stock and sell Smith Cam Followers and Yoke Rollers.

Write for your new, quick reference data sheets.

SMITH BEARING DIVISION
Accurate Bushing Company
443 North Avenue, Garwood, New Jersey

Manufacturers of: Needle Bearings, Cam Followers, Yoke Rollers, Jet Engine After Burner Rollers and Bearing Assemblies, N. A. S. Standard and Special Bearings, High Temperature and Severe Wear Precision Parts.

▲ For more details circle NED-1000 B1 on enclosed inquiry slip ▲

Wipco Wire Partitions
FIT ANY AREA

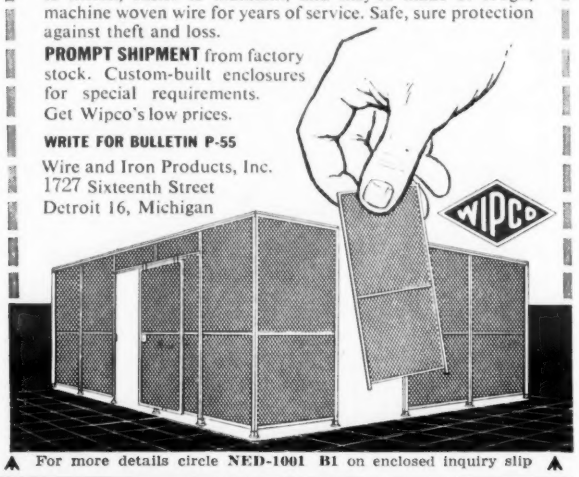
MOVEABLE—REUSABLE—FLEXIBLE! Standard sections in a variety of sizes for stock rooms, tool rooms, runways, etc. Each section a complete unit ready for erection. No special tools . . . no special crews. Your men install Wipco partitions quickly and easily. Future changes? Just disassemble and re-locate!

COST LESS THAN WOOD FRAMING AND WIRE NETTING Cheaper to install, easier to maintain, and they're made of tough, machine woven wire for years of service. Safe, sure protection against theft and loss.

PROMPT SHIPMENT from factory stock. Custom-built enclosures for special requirements. Get Wipco's low prices.

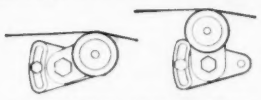
WRITE FOR BULLETIN P-55

Wire and Iron Products, Inc.
1727 Sixteenth Street
Detroit 16, Michigan



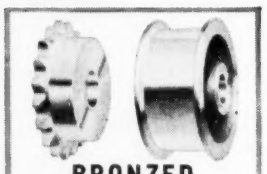
For more details circle NED-1001 B1 on enclosed inquiry slip

Controlled tensioning eliminates shock loading through excessive chain vibration, and horsepower loss through belt slippage.



- ROTATING ARM ACTION FOR GREATER ADJUSTMENT
- FULL 360° POSITIONING

A low cost tensioner for single and multiple width drives that is more adaptable to machine frames. *See your Power Transmission Distributor* or write . . .



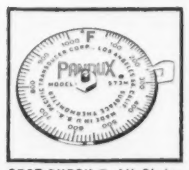
BRONZED BUSHED IDLERS
14 SIZES
AVAILABLE FROM STOCK

BREWER MACHINE & GEAR CO.
1441 N. 2nd St. St. Louis 6, Mo.

For more details circle NED-1002 B1 on enclosed inquiry slip

PANDUX®
THERMOMETERS
CHECK *any* SURFACE TEMPERATURE!

Write for **FREE** *temperature conversion chart...C to F and F to C O°K. to 5612°F.*



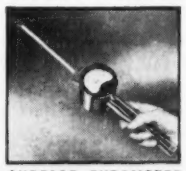
SPOT-CHECK (T) All Stainless Steel. Four ranges to 1000°F. With magnet $4.00

SURFACE Three Ranges, minus 50°F. to 370°F. Also in Centigrade. With magnet..... $6.75

MAXIMUM-MINIMUM All Stainless Steel. Four ranges to 1000°F. With magnet..... $6.75

HI-HEAT Two Built-In Magnets. 50°F. to 750°F. $6.75

MAXIMUM - MINIMUM RECORDING With replaceable Chart. Minus 50°F. to 250°F..... $39.50



SURFACE PYROMETER 10" Surface Tip. Two ranges to 2300°F. Complete $57.00

OTHER PANDUX THERMOMETERS: Stainless Steel Stem Dial Type regular and with maximum-minimum hands; Glass Mercury Immersion Types for production and laboratory.

Order through your dealer or write factory for complete catalog ND-21 Phone GRanite 8-1134

PACIFIC TRANSDUCER CORP. 11836 W. Pico Blvd. Los Angeles 64, Calif.

For more details circle NED-1003 B1 on enclosed inquiry slip

New Processes & Materials

PHOTO RESIST for etched copper circuit work

Accurately defined electroplated patterns in printed circuits with lines as narrow as 0.005 in. and only 0.005 in. apart are possible with Resist-Etch photo resist. It will also positively block off unwanted electroplate. Other features include freedom from pinholes, resistance to all plating cycles, easy removal with Re-strip, freedom from contamination of base or precious metal plating solutions, and nontoxicity. • **Meaker Co.**, 75 River Rd., Nutley 10, N. J.

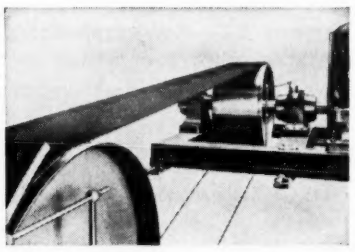
For more details circle NED-1004 B1 on enclosed inquiry slip

EXTRUDED LEADED ALLOY is free-machining manganese bronze

Available in close-tolerance extruded solid and hollow bar forms, Ampcoloy 668 is a high strength, free-machining, leaded manganese bronze alloy which is particularly suited for screw machine work. Typical uses include bushings, bearings, gears, cams, connecting rods, valve stems, and lead screw nuts. Tensile is 75,000 psi, and corrosion resistance is reportedly better than that of copper-tin and copper-tin-lead alloys. It possesses good hot working properties and can be forged to close tolerances with good physical properties. • **Ampco Metal, Inc.**, Box 2004, Milwaukee 1, Wis.

For more details circle NED-1005 B1 on enclosed inquiry slip

DRIVE BELTING combines leather and nylon



Elasticity, light weight, high tensile strength, and adaptability to high speeds are characteristics of Page-Lon belting which combines leather with Super - Polyamid (nylon). Extruded nylon is oriented (prestretched and drawn) and bonded to leather, forming a belt material that is well suited for certain conveyor uses as well as power transmission. It can be used for paper mill cone drives, short center drives with high ratio pulleys, serpentine and crossed drives, and in some instances, will replace V-belts, chain, gears, and timing belt drives. Belting can be operated at speeds to 10,000 fpm and over. With a hot press, belting can be made endless in the field and operated within 2 hr. • **Page Belting Co.**, Concord, N. H.

For more details circle NED-1006 B1 on enclosed inquiry slip

Morse Eberhardt-Denver "C" flanged separable Gearmotors

Sold 2 ways: with electric motor or without!

Here's flexibility! Buy this Morse E-D Gearmotor right off the shelf complete with Nema electric motor or without. You can use your own motor. Versatile—simple to change drive ratio. Mount it in any position.

This "C" flanged type reducer offers capacities from 1/12 hp to 2 hp and gear ratios from 5:1 to 60:1.

NEW—FREE Morse E-D catalog of "C" flange gearmotors. Write Morse Chain Company, Dept. 19-21, A Borg-Warner Industry, Ithaca, N.Y. Export Sales: Borg-Warner International, Chicago, Ill. In Canada: Morse Chain of Canada, Ltd., Simcoe, Ontario.

MORSE
A BORG-WARNER INDUSTRY

For more details circle NED-1007 B1 on enclosed inquiry slip

Stop Corrosion "Cold" at Red Hot Heats!

MARKAL "S-R" COATINGS—

give permanent protection to metals against corrosion, oxidation and scaling at temperatures as high as 2200°.

You can use "S-R" on a wide variety of applications such as stacks, retorts, furnaces, ducts, kilns, exhausts, mufflers, manifolds and many others. There's no peeling or cracking even during sudden temperature changes.

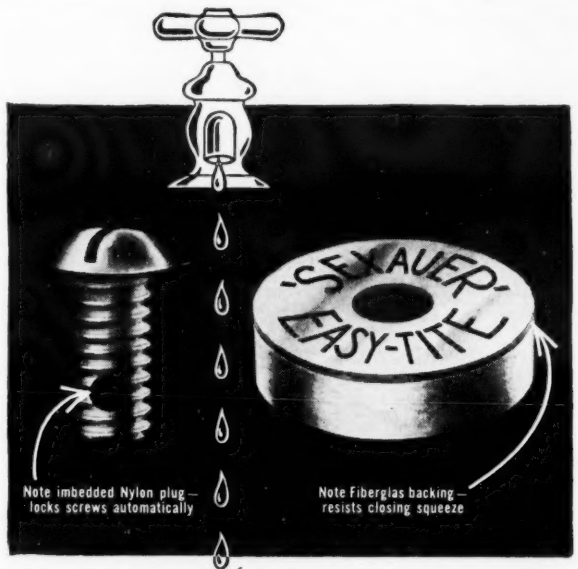
Markal "S-R" is easy to use, can be brushed or sprayed.

WRITE on company letterhead for complete information, literature and recommendations.

MARKAL . . . The Mark of Quality

MARKAL COMPANY
3053 West Carroll Avenue Chicago 12, Illinois

For more details circle NED-1008 B1 on enclosed inquiry slip



New Way to Stop Faucet Leaks!

★ **9-in-10 washers are fastened with TOO LONG or SHORT SCREWS thus loosen and destroy themselves. Leaks quickly follow!**

34 YEARS OF RESEARCH REVEALS NEW SOLUTION

★ **New, patented 'Sexauer' SELF-LOCK screws have imbedded expanding NYLON PLUG. They lock at required depth AUTOMATICALLY, hold washers firmly! Made of MONEL, they are rustproof, non-corroding. Heads can't twist off. Screw slots can't distort.**

★ **NEW, improved 'SEXAUER' EASY-TITE faucet washers are made of super-tough, pliable du Pont compound (not rubber or fibre). Reinforced with a vulcanized layer of Fiberglas, they resist distortion and splitting from shut-off grind and squeeze.**

★ **Faucet leaks repaired with 'Sexauer' EASY-TITE faucet washers and SELF-LOCK screws outlast ordinary repairs "6-to-1"!**

HIDDEN COSTS OF FAUCET LEAKS!

Hackensack, N. J. Water Co. and American Gas Association figures prove stopping just ONE PIN-HOLE SIZE (1/32") LEAK saves you 8,000 gal. water quarterly. A HOT WATER FAUCET LEAK repair saves you over $7.58 QUARTERLY in fuel and water bills. Fewer leaks also produce important savings on MATERIALS, LABOR and COSTLY FIXTURE REPLACEMENTS!

A 'Sexauer' Technician will make available our NEW Catalog, Edition "J", listing our entire line of over 3,000 TRIPLE-WEAR plumbing repair parts and tools. He will survey your fixtures, determine the repair parts needed and establish an efficient stock arrangement and control to prevent costly overstocking or shortages. You get this service without obligation. *Act now!*

J. A. Sexauer Mfg. Co., Inc., Dept. AU-21
2503-05 Third Ave., New York 51, N.Y.
Please send me a copy of your NEW Catalog "J"
Name_____ Title
Organization_____
Bus. Address_____
City_____ Zone_____ State_____

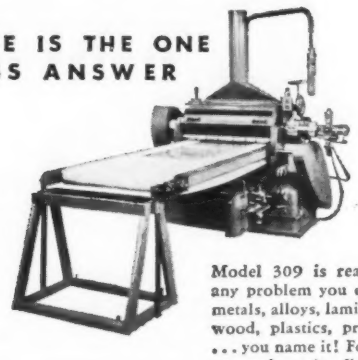
SEXAUER
WORLD'S LEADING SPECIALISTS IN PLUMBING AND HEATING REPAIR PARTS

For more details circle NED-1009 B1 on enclosed inquiry slip

From RUST Removal to final FINISH

On Sheet or Coil Stock

HERE IS THE ONE PASS ANSWER



Model 309 is ready for almost any problem you encounter with metals, alloys, laminated surfaces, wood, plastics, printed circuitry . . . you name it! For coarse stock removal, satin finishes, mirror surfaces, polishing, brushing, waxing, etc. It's a pinch-roll, thru-feed unit.

CLAIR ONE OF 11 MODELS OF CLAIR SURFACE FINISHING MACHINES

MANUFACTURING CO., Inc., OLEAN, N.Y.

Offering the Most VERSATILE Line of Surface Finishing Machines

For more details circle NED-1010 B1 on enclosed inquiry slip

WANT PERSONALIZED SERVICE ON SHORT RUN STAMPINGS?

FREDDY FEDERAL is happy to oblige! Your short run stamping order receives immediate, careful attention—whether it's a limited run . . . or 10,000 or more pieces. Our skilled craftsmen take a personal interest in making sure all parts fully meet specifications, are delivered on time. Send us your print today for an airmailed quotation. Or ask for reply by wire or phone!

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3 PLANTS To Serve You Better

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3618 Alabama Avenue • Minneapolis 16, Minn.
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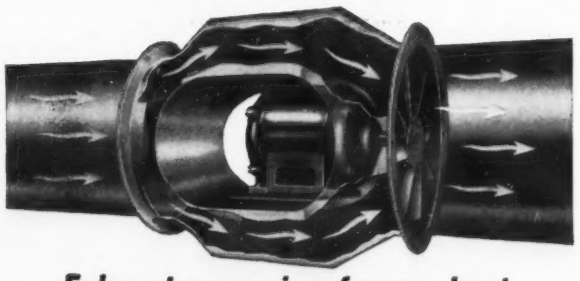
FEDERAL STAMPING COMPANY
7318 Atoll Avenue • North Hollywood, Calif.
TRiangle 7-0452

For more details circle NED-1011 B1 on enclosed inquiry slip



Exhaust corrosive fumes, heat without 90° turn in air flow

Direct-drive BIFURCATOR® fans are installed at any angle like a section of ductwork, so no elbow or motor mounting platform is required. Sharp-corner deflection of exhaust flow is eliminated, friction is reduced and velocity is increased. This *original* BIFURCATOR design bypasses exhaust flow *around* the motor which is shielded by a protective housing. Available in a choice of metals or with corrosion-resistant coatings for operations with high acid atmospheres. Sizes and capacities range from air delivery of 913 cu. ft./min. (12 in. diam. fan, 1/20 h.p. motor) up to 45,000 cu. ft./min. (48 in. diam. fan, 20 h.p. motor.) WRITE Dept. NED-261 FOR FREE, ILLUSTRATED BULLETIN.

De Bothezat® FANS

A DIVISION OF

American Machine and Metals, Inc.

EAST MOLINE, ILLINOIS

For more details circle NED-1012 B1 on enclosed inquiry slip

New Literature & Catalogs

Rolling Diaphragm Seals

Bellofram Corp.—28-page Design Manual BF-400-A deals with selection and applications of rolling diaphragm seals for hydraulic and pneumatic actuators and controls. They are made from nitrile silicone, Viton A, polyurethane, fluorinated silicone and butyl elastomers with Dacron, Teflon, and glass fabrics. Uses include pumps, valves, instruments, actuators, regulators, cylinders, and pressure transducers.

For more details circle NED-1013 B1 on enclosed inquiry slip

Two-Directional Drive Unit

Formsprag Co.—22-page Catalog RL-101 introduces the Rev-Lok dual torque locking and positioning device made in 17 models with torque capacities ranging from 40 to 30,000 lb-in. The two-directional drive unit can be mounted to transmit driving torque, overrun, backstop, prevent feedback, or function in a torque sensing capacity.

For more details circle NED-1014 B1 on enclosed inquiry slip

Metal & Plastic Pipe Fittings

Campbell Mfg. Co.—A complete line of steel, brass, and aluminum pipe fittings made by Campbell, as well as polypropylene, styrene, ABS, nylon, and cycolac fittings for plastic pipe, made by Penn Sterling, Inc., are displayed in 40-page brochure. Seals and caps, foot and check valves, water hammer eliminators, motor pump supports, torque resistors, and other equipment are also shown.

For more details circle NED-1015 B1 on enclosed inquiry slip

Ultrasonic Cleaning Equipment

National Ultrasonic Corp.—Ultrasonic cleaning equipment reviewed in 28-page Catalog 60 includes standard and heavy duty generators with outputs from 60 to 2000 w; tanks, including heated and filtered units; self-contained cleaners; a console unit; immersible transducers; vapor degreasers; cleaning compounds; pumps and filter; a distillation unit; and various accessories.

For more details circle NED-1016 B1 on enclosed inquiry slip

Optics, Instruments, Teaching Aids

Edmund Scientific Co.—Catalog 609 lists a multitude of optical items, including telescopes and accessories; binoculars, microscopes and comparators; math and science teaching aids; lenses, prisms, reticles, and mirrors; and science project kits, materials, and parts. 142 pages.

For more details circle NED-1017 B1 on enclosed inquiry slip

Static Power Conversion Guide

United Aircraft Corp., Hamilton Standard Div.—The "Static Power Conversion Guide" explains this new field of controlled electrical power and outlines the advantages of static power equipment. Comparison is made between typical static and rotating inverters.

For more details circle NED-1018 B1 on enclosed inquiry slip

RESISTS HEAT, CORROSION, OILS, SOLVENTS
NO DAMAGE FROM NAILS OR STRAPPING
SELF TRACKING . . NO STRETCH

ARMORBELT
UNITIZED ALL-METAL BELT CONVEYOR

GIVES MORE PERFORMANCE FOR YOUR MONEY!

Only Armorbelt gives you all the features you need for longest conveyor life under the toughest operating conditions. On production lines, for multi-level conveying, and for conveying through ovens or cold rooms, Armorbelt gives steady performance where others fail. And, its 4¼" body depth is completely enclosed for safety and cleanliness.

10 foot sections can be connected to make any conveyor length up to 500 feet—widths from 6" to 96". Get the complete story today.

WRITE FOR CATALOG #17

M-H STANDARD CORPORATION
515 Communipaw Ave., Jersey City 4, N. J. HE 3-5834

For more details circle NED-1019 B1 on enclosed inquiry slip

Ball Bearing Screws & Splines

General Motors Corp., Saginaw Steering Gear Div.—Basic principles, types, and applications of ball bearing screws and splines are covered in 24-page engineering Data Book 61-E. Screws provide efficient, low torque actuating and positioning action, whereas splines provide easy linear movement, even when functioning under high torque or bending loads.

For more details circle NED-1020 B1 on enclosed inquiry slip

Zinc Alloy Die Casting

Henning Bros. & Smith, Inc.—Latest pointers for producing sound zinc alloy castings are given in pocket-size 36-page booklet, "Die Casting with Zinc Base Alloys." Alloy composition, alloy and die temperatures, gating and venting, injection pressure, and surface finish are topics considered.

For more details circle NED-1021 B1 on enclosed inquiry slip

Industrial Water Heating Installations

"Hot Water for Industrial Plants" is title of 100-page Manual CH-110 which shows and specifies all of company's industrial water heaters. It provides data for estimating hot water requirements for plant cafeterias, laboratories, manufacturing processes, and lavatories. Installation instructions are given. Available only by writing on company letterhead to A. O. Smith Corp., Permaglas Div., Kankakee, Ill.

For more details circle NED-1022 B1 on enclosed inquiry slip

Decal Transfers for Special Needs

Some cases require rapid application of decal transfers, some require high resistance to abrasion or solvents, whereas others call for resistance to weathering. The "Directory to Quality Transfer Nameplates" explains the difference between these transfers and details the new Dri-Mark nameplates for dry pressure-sensitive application. Request directory on letterhead to Meyercord Co., 5323 W. Lake St., Chicago 44, Ill.

For more details circle NED-1023 B1 on enclosed inquiry slip

Shaft & Flange-Mounted Drives

Falk Corp.—36-page Bulletin 7100 presents shaft mounted drives and a new series of flange mounted drives covering a torque range up to 44,000 lb-in. Also covered are compact, steel welded Equi-Poised motor mounts for use with these drives. Mounts are predrilled to accommodate rerated foot-mounted NEMA motors from ½ to 30 hp.

For more details circle NED-1024 B1 on enclosed inquiry slip

Built-Up Roofing Specifications

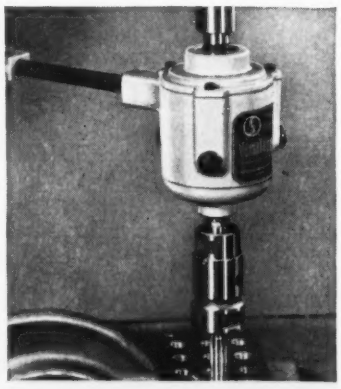
Koppers Co.—Specifications for constructing a built-up, water-tight roof are contained in the 1961 edition of "Koppers Built-Up Roofing Specification Manual for Architects and Engineers." The 28-page brochure includes instruction for installations on both flat and steep roofs and on all types of surfaces. Re-roofing, insulation, flashings, waterproofing, and dampproofing are covered.

For more details circle NED-1025 B1 on enclosed inquiry slip

EQUIP YOUR DRILL PRESS WITH A

Supreme VersaTAPPER

. . . new tapping attachment that gives more capacity . . . more production



The new Supreme VersaTAPPER is a drill press tapping attachment that offers maximum efficiency at lowest initial cost. It's the ideal tool for tapping all holes from No. 10 thru ½". (The full capacity range is 0 to ⅝".) Simple and safe to operate. Two models:—No. 6100 with straight shank for chucking; No. 6200 with Morse taper arbor. Both models include a Supreme Accutap Tap Chuck.

Ask your distributor for a VersaTAPPER demonstration. Write for literature.

$63 COMPLETE

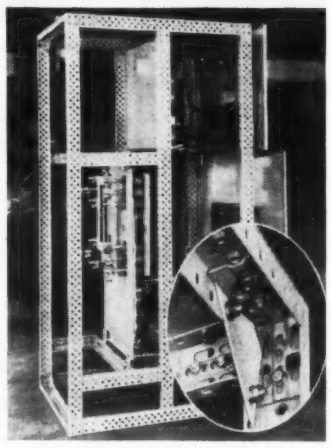
SUPREME PRODUCTS CORPORATION

2222 S. Calumet Ave., Chicago 16, Ill. PRECISION A-S-R PRODUCTS

For more details circle NED-1026 B1 on enclosed inquiry slip

New Processes & Materials

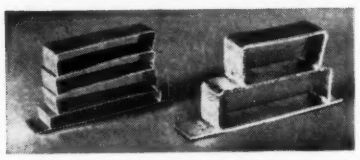
STRUCTURAL FRAMING
available in steel and aluminum



Recurring pattern of round and square holes in 3 x 1½-in. by 11-gage structural framing facilitates making panel board, distribution center, and other large control enclosures, as well as racks, platforms, and guards. The rigid, quickly assembled product is available in steel and aluminum. It uses square neck carriage bolts in the square holes for rigidity and flat head bolts for flush fastening in countersunk holes where panel covers are to be added. Structural members include long and short leg 90-degree angle brackets, a 45-degree bracket, 90-degree gusset plate, flat butt plate, and a flat T-plate. Standard lengths are 1½ to 10 ft. Finish is blue-gray oven baked primer. • **Lake Shore Electric Corp.**, 205 Willis St., Bedford, Ohio.

▲ For more details circle **NED-1027 B1** on enclosed inquiry slip ▲

COPPER JOINING PROCESS
diffusion bonds are homogeneous and often stronger than base metal

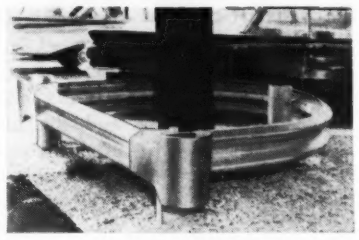


Process for joining copper to copper and certain alloys to copper results in a homogeneous bond which is as strong or stronger than the base metal. Special coating which effects diffusion bonding can be applied to copper strip before it is rolled to gage. Under 5-15 min heating at 1700-1800° F in an inert atmosphere, coating diffuses into the parts to be joined, producing a bond without an interface. Joints have high thermal and electrical conductivity and high tensile, shear, and fatigue properties. They are vacuum tight and can operate at elevated temperatures.

Joints can be made by applying coating to part prior to joining; by having one of the two components made of copper strip coated prior to final rolling; or by using a precoated thin-gage insert to join two components made of uncoated copper strip. Photo shows edge-to-surface joints where bonding agent was applied only to the strip surfaces. Strip used at left is 0.005 in. thick; at right, 0.025 in. thick. • **Chase Brass & Copper Co.**, 236 Grand St., Waterbury 20, Conn.

▲ For more details circle **NED-1028 B1** on enclosed inquiry slip ▲

LIGHT-DUTY GUARD RAIL
for parking lots, plant protection



Protection from vehicle damage as well as safety are afforded by Econo-Beam 16-gage guard rail for driveway, parking lot, in-plant, and other low impact applications. Supplied in 12½ or 25-ft lengths, it is galvanized on both sides and does not need painting for weather protection. A single bolt holds the light-weight sections to any timber, concrete, or steel post. • **Armco Drainage & Metal Products, Inc.**, 9360 Curtis St., Middletown, Ohio.

▲ For more details circle **NED-1030 B1** on enclosed inquiry slip ▲

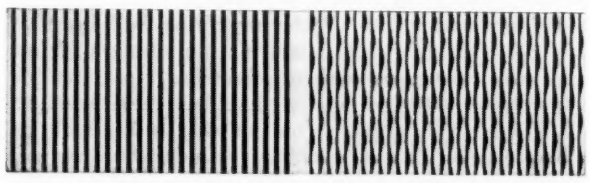
BEARING STEELS
resist wear, corrosion, oxidation

Three new bearing steels afford improved hot hardness properties and better resistance to wear, corrosion, and oxidation than standard 440 C analysis stainless steel. Lesco BG 41 steel for use in high temperature bearings and jet and missile structural components is basically a replacement of the 2 per cent chromium in the 440 C analysis with 4 per cent molybdenum. It is produced by air melting and the vacuum consumable electrode process. Lesco BG 42 and BG 43 steels have 1 and 2 per cent vanadium contents and correspondingly higher carbon contents than the BG 41 analysis. These two steels are now air melted, with production by vacuum melting also planned. • **Latrobe Steel Co.**, Latrobe, Pa.

▲ For more details circle **NED-1031 B1** on enclosed inquiry slip ▲

TEXTURED METALS
made in various metals and finishes

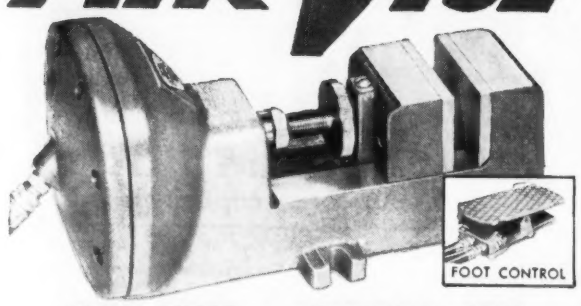
Norman and Windsor patterns offered in Ardmore line of textured metals add a decorative accent to a wide range of products. Norman texture (left) can



be used to make low products look taller or narrow areas look wider. It is furnished in up to 12-in. widths in any length in sheet, strip, or coil form. Average depth of texture is 0.010 in. Windsor texture (right) is available in widths up to 36 in. with average pattern depth of 0.007 in. Various metals and finishes are available. Both are used to hide mars, dents, scuffs, and fingerprints. Standard and special perforations are available in both textures, suiting them for acoustic and sound transmission applications. • **Ardmore Products, Inc.**, 211 Aldene Rd. & First Ave., Roselle, N. J.

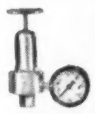
▲ For more details circle **NED-1032 B1** on enclosed inquiry slip ▲

Speedy AIR VISE



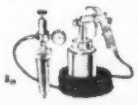
HIGH SPEED • POWERFUL GRIP

New, improved model speeds up all repeat operations—*milling, drilling, tapping, punching, bending, riveting.* Both hands left free to produce more! Light squeeze to 2250 pounds pressure! Extra thick jaws for attaching jigs. Jaws open to 3-inches; 1/16" to 5/8" maximum travel. Complete with foot control, air hose and fittings..... **$44.00**



SPEEDY AIR REGULATOR Regulates pressures 0 to 140 lbs. No. 622 **$7.25**

SPEEDY AIR FILTER Assures clean, oil-free air. No. 140 **$4.00** Slightly higher West Coast



SPEEDY UNIT Production spray unit with Ext. Mix Gun. No. 705 **$26.50**

Order from Your Supplier or Write for Air Tool Catalog

W. R. BROWN CORP., 2647 N. Normandy Ave., Chicago 35

AIR TOOLS • AIR VISES • AIR REGULATORS • FILTERS • COMPRESSORS

▲ For more details circle **NED-1033 B1** on enclosed inquiry slip ▲

Two Good Reasons Why a

THERMOGRIP®

Adhesive System

Can Benefit You

On the one hand there's THERMOGRIP adhesive itself.

This unique hot melt adhesive in cord-like form is applied intermittently or continuously in wide or narrow patterns to make bonds where other adhesives fail, take too long to set-up, or cost too much.

On the other hand, there is the variety of THERMOGRIP applicators available . . . seven types . . . including wheel and nozzle. The man pictured is holding a Model CN Applicator.

This unique adhesive-applicator combine is designed to be easily adapted to processing equipment, high speed assembly lines, and wherever a seam, pattern or dot of adhesive can accomplish the fastening function.

Here's a new equipment idea that may represent lower costs and higher efficiency for machines that put things together. Ask for THERMOGRIP catalog.

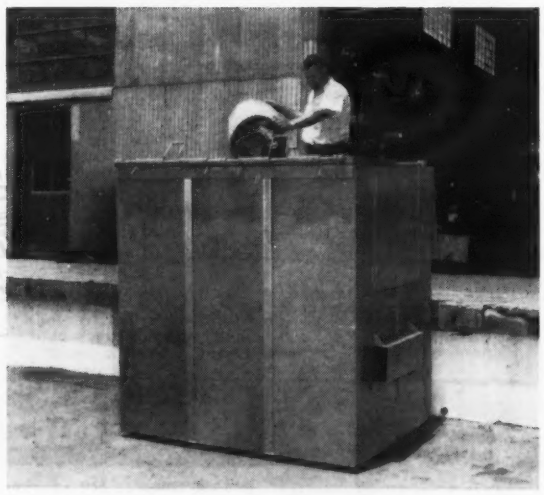
United

UNITED SHOE MACHINERY CORPORATION

140 Federal Street, Boston, Mass.

▲ For more details circle **NED-1034 B1** on enclosed inquiry slip ▲

NOW! You Can End Refuse Storage Problems... WITHOUT Capital Outlay



DUMPMASTER-Equipped Private Haulers Provide Containers and Efficient Service

If you're plagued with trash piles, scattered refuse, fire hazards, and hit-or-miss collection, there's a good chance you can do something about it . . . WITHOUT CAPITAL OUTLAY!

In most major cities DEMPSTER-DUMPMASTER-equipped private haulers will put clean, big-capacity storage containers at convenient locations in your plant . . . empty them mechanically on schedule, or on a call-in basis . . . all for a reasonable monthly fee.

When you containerize your refuse, plant housekeeping becomes easy, employee morale goes up.

Write today for the name of your nearest private hauler. We'll also send literature describing his service.

Write Today for Free Brochure and Name of Nearest Private Hauler

DEMPSTER BROTHERS Inc.

Dept. NE-2, KNOXVILLE 17, TENNESSEE

▲ For more details circle **NED-1029 B1** on enclosed inquiry slip ▲

SMALL STEAM TRAP
. . . but large capacity!

New Design
New Operating Principle

Small as a tee fitting! That's the Sarco TD . . . all sizes ⅜ to 1"!

But don't let the small size fool you! ½" Sarco TD, for example, has capacity of 1280 lbs/hr, 150 psi, saturated steam temperature.

Capacity is determined, *not* by a bulky body, but by the effective orifice, valve action, pressure drop, and condensate temperature. 3945

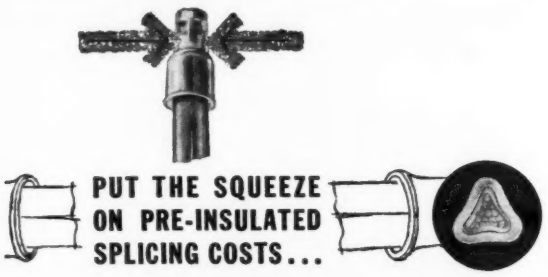
Few of many advantages

Same trap and large capacity seat for all pressures, 10 to 600 psi . . . light or heavy loads. Self-adjusting. Has no valve mechanism. Only one moving part.

Ask for 60-day trial. We'll see that you receive a Sarco TD steam trap and strainer for free trial. No cost or obligation. Buy only if completely satisfied. Advise size—⅜, ½, ¾, or 1"—and use. Sarco Co., Inc., 635 Madison Avenue, New York 22, New York.

SARCO
SARCO COMPANY, INC.
635 MADISON AVE., NEW YORK 22, N. Y.
PLANT: BETHLEHEM, PA.

For more details circle NED-1035 B1 on enclosed inquiry slip



PUT THE SQUEEZE ON PRE-INSULATED SPLICING COSTS...

with Buchanan's completely new combination of 2002 Wide-Range Pre-Insulated Splice Caps and hand or pneumatic-operated Ratchet-Controlled tri-SURE-tools.

Just one size cap covers a wide range of wire sizes. And the 2002's tough, see-thru nylon insulator has extra long skirts for maximum grounding and short circuit protection.

Just one tool installs these caps. There is no wire twisting. The ratchet-controlled tool prevents under and over-crimping. Its exclusive three-indent rolling action minimizes puncture, splitting or thinning-out insulation; provides positive connections.

Write for Bulletin J-2

Listed as "pressure-type splicing connectors" and "fixture-type splicing connectors" for use on 2 thru 6 #18 str., 3 thru 5 #18 sol., 2 or 3 #16 str. or sol., 2 #14 str. or sol., 1 #12 with 1 #14 str. and numerous other combinations. Also listed for 600 volts max. on building wire; 1000 volts max. in fixtures to 105°C. max. Also UL listed for 1000 volts max. in electric signs.

BUCHANAN
BUCHANAN ELECTRICAL PRODUCTS CORPORATION
HILLSIDE, NEW JERSEY
In Canada: ESNA CANADA LIMITED, Toronto 14

For more details circle NED-1036 B1 on enclosed inquiry slip

NEW FORMULA SOLVES MOISTURE PROBLEMS

***CALFONEX* Formula 78-A**

is a low surface tension formula which displaces water and moisture. It PENETRATES to the original material and follows every surface contour forming a continuous protective molecular film that seals.

- ★ Corrects malfunction caused by moisture
- ★ Restores water contaminated equipment to use
- ★ Protects equipment and parts
- ★ Loosens and removes dirt, scale rust
- ★ Lubricates... prevents "freezing" of parts

Effective on all METALS, PAINTED SURFACES, RUBBER, PLASTICS, CERAMICS. SPRAY CAN or BULK

THE FALCON CORP. G.P.O. BOX 1035 BROOKLYN 1, N. Y.

The FALCON Corporation, G.P.O. Box 1035, Brooklyn 1, N. Y.
Yes, I am interested in Calfonex Formula 78-A. A
Please send me your Brochure and name of Distributor
Firm ____
Name ____ Title ____
Address ____
City ____ State ____

For more details circle NED-1037 B1 on enclosed inquiry slip

New Literature & Catalogs

Electrostatic Paint Systems

Ionic Electrostatic Corp.—Centrifugal-type electrostatic paint spray systems and equipment is described in 8-page Bulletin 100. It discusses atomization by air and centrifugal force and the use of electrostatics to charge and guide pre-atomized particles of coating material. Technique makes possible the spraying of conductive, water base, and other standard paints.

For more details circle NED-1038 B1 on enclosed inquiry slip

Precision Panel Instruments

DeJur-Amsco Corp., Electronic Sales Div.—Electrical indicating panel meters ranging from miniature ½-in. diameter units to 4½-in. sizes are reviewed in 24-page general information brochure PI-1160. Included are commercial, micro-miniature, sealed round and square, watertight, "ruggedized," and special instruments.

For more details circle NED-1039 B1 on enclosed inquiry slip

Recorder Charts & Inks

Minneapolis-Honeywell Regulator Co., Industrial Div.—Most commonly used ElectroniK circular and strip charts for M-H recorders and recording inks are listed in 24-page Catalog G-100-6. Although only representative chart samples are shown, company can provide any type of chart, regardless of range, graduations, size, and paper. Slow and quick-drying and general purpose inks are listed.

For more details circle NED-1040 B1 on enclosed inquiry slip

Flexible Hose & Duct

Flexaust Co.—Data pertinent to selection of Flexaust flexible hose and duct is provided along with price information in 12-page Bulletin 605. Hose and duct are used in dust collection, fume control, and air and materials handling, and are made of neoprene coated cotton, nylon, or glass fabrics with spiral wire reinforcement.

For more details circle NED-1041 B1 on enclosed inquiry slip

Wide Inner Ring Ball Bearings

Fafnir Bearing Co.—Wide inner ring ball bearings are designed for easy mounting on straight shafts and are positioned without shoulders, locknuts, or adapters. A 60-page catalog describes these bearings along with Fafnir power transmission units, such as pillow blocks, flange cartridges, cylindrical cartridges, and take-up units.

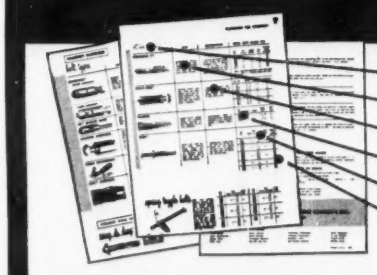
For more details circle NED-1042 B1 on enclosed inquiry slip

Screw Conveyor Engineering Guide

Thomas Conveyor Co.—150-page Screw Conveyor Engineering Guide No. 360 contains several pages showing typical installations and three chart-filled sections on engineering, components, and layouts. Some of the facilities of the 91,000 sq ft company plant are pictured.

For more details circle NED-1043 B1 on enclosed inquiry slip

THIS INFORMATION
MEANS MONEY TO YOU!



- Fastener Types
- Where to Use
- Important Features
- Sizes Available
- Drill Sizes
- Holding Strength

Here, in easy-to-use chart form is the data you need to select the right fastener for any application . . . a practical "how to" guide for savings in both time and labor . . . with the strength and holding power "extras" built into every Diamond fastener.

Fasteners With *Extra* Value
DIAMOND

FREE!
Fastener Guide for Masonry and Hollow Wall Anchors

Diamond Expansion Bolt Co., Inc.
502 North Avenue, Garwood, N. J.
Please send ____ FREE Fastener Guides.
Name ____
Company ____
Position ____
Address ____
City ____ State ____

For more details circle NED-1044 B1 on enclosed inquiry slip

SUPERIOR OPERATION AT LOWER COST!

CARRIED BY THE NATION'S QUALITY DEALERS—BEST EQUIPPED TO GIVE YOU EFFICIENT SERVICE.

- ONE-PIECE LEAKPROOF HYDRAULIC UNIT
- 4½" LIFT IN THREE STROKES
- MINIMUM MAINTENANCE

Precision built to meet your most exacting requirements. Full six-month warranty.

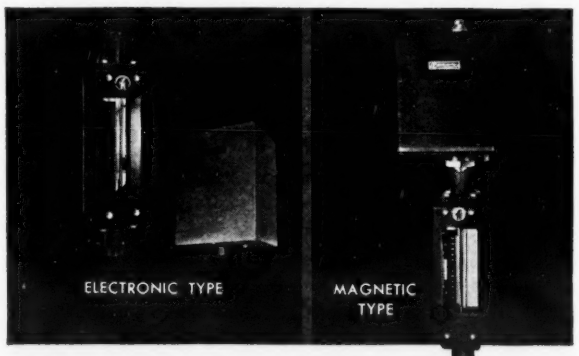
STOKVIS MULTITON CORP. 18 SECATOAG AVENUE PORT WASHINGTON, NEW YORK

For more details circle NED-1045 B1 on enclosed inquiry slip

ALARM ROTAMETERS

SIGNAL ABNORMAL FLOW RATES

SK Alarm Rotameters accurately measure fluid rate of flow—activate a light or alarm device, start or stop a pump, motor, control unit *in case of abnormal flows.* They are accurate, economical, dependable. Get details in new Bulletin 18A.



Schutte and Koerting COMPANY
INSTRUMENT DIVISION
2227 STATE ROAD, CORNWELLS HEIGHTS, BUCKS COUNTY, PA.
EXPORT DEPT.: 1505 Race Street, Philadelphia 2, Pa., U.S.A.

For more details circle NED-1046 B1 on enclosed inquiry slip

From Seattle to Sydney, from Boston to Bombay, those who demand the best insist on Kerotest. These quality valves have been in service around the world for 50 years. For best service in your applications, always specify Kerotest.

WRITE TODAY FOR Catalog!

KEROTEST

KEROTEST MANUFACTURING COMPANY
2522 Liberty Avenue, Pittsburgh 22, Pa.
In Canada, Kerotest products are manufactured and distributed exclusively by Guelph Engineering Company, Guelph, Ontario.

For more details circle NED-1047 B1 on enclosed inquiry slip

Alcoa Alloy 6262-T9*

■ Higher yield strength than alloys 2011, 2017 and 2024 ■ Better corrosion resistance than alloys 2011, 2017 and 2024 ■ Better machinability and higher strength than alloy 6061

See your nearest Alcoa distributor or jobber—he carries a full line of Alcoa® Screw Machine Stock alloys for every application.

*Patent applied for

ALCOA ALUMINUM
SCREW MACHINE STOCK

For more details circle NED-1048 B1 on enclosed inquiry slip

Alcoa Aluminum Fasteners

■ Any type; any size; made from high-strength, heat-treated alloys ■ Assemble easily, never seize or bind, because of precision threading and rigid inspection

Your local Alcoa distributor or jobber stocks huge inventory—can make quick delivery. Check your Yellow Pages under "Aluminum."

ALCOA ALUMINUM
FASTENERS

For more details circle NED-1049 B1 on enclosed inquiry slip

Alcoa Aluminum Abrasive Tread Plate

■ Wear uncovers additional abrasive particles—actually *renews* the surface ■ Slip-proof on wet, oily or greasy floors ■ Light weight—installs easier, faster ■ Corrosion resistant—never needs maintenance

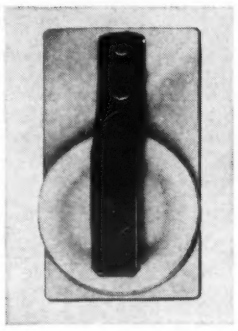
Call your local Alcoa distributor.

ALCOA ALUMINUM
ABRASIVE TREAD PLATE

For more details circle NED-1050 B1 on enclosed inquiry slip

New Processes & Materials

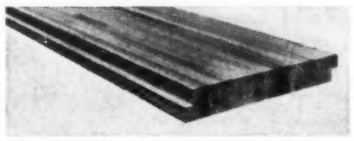
DEODORIZER BLOCKS
eliminate waste receptacle odors



Tiny adapter plates with spring clips to hold deodorizer blocks can be mounted anywhere with a special adhesive to eliminate offensive odors in enclosed areas. The long-lasting ceramic blocks have a subtle aroma suited for odor elimination in various types of waste receptacles, storage closets, individual clothes lockers, and washroom booths. ● **D. J. Alexander Corp.**, 2944 E. Venango St., Philadelphia 34, Pa.

For more details circle NED-1051 B1 on enclosed inquiry slip

LAMINATED HARDWOOD FLOORING
for trucks and trailers

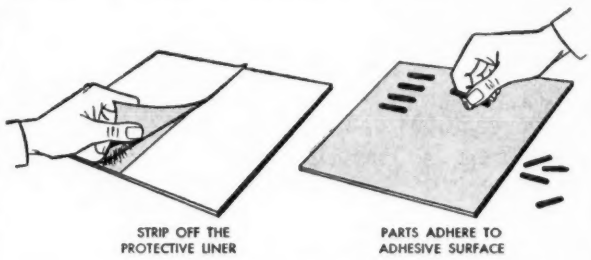


Latest electronic laminating processes and new waterproof glues are used in making oak Dura-Wood laminated flooring for trucks and trailers. Laminated boards are made up to 12 in. wide in full trailer or truck lengths. They are shipped precut with shiplap, center-match, or special machining. Installation is fast and easy. ● **E. L. Bruce Co.**, 1648 Thomas, Memphis 1, Tenn.

For more details circle NED-1052 B1 on enclosed inquiry slip

ADHESIVE CHIP-BOARD
holds small parts for shipping

Pressure-sensitive corrugated board or chip-board, coated with adhesive by the Pres-Pak process, is intended for shipping, storing, or handling of springs,



wireforms, plated stampings, fragile abrasives, and other small items. Products are placed on the tacky-surfaced board where they adhere during handling or shipment, but are easily removed when needed. Supplied in desired shapes and sizes, including die-cuts, boards have a protective liner which is stripped off before use. They prevent mixing or intermingling of tiny items. ● **Pres-On Products Co.**, Factory Road, Addison, Ill.

For more details circle NED-1053 B1 on enclosed inquiry slip

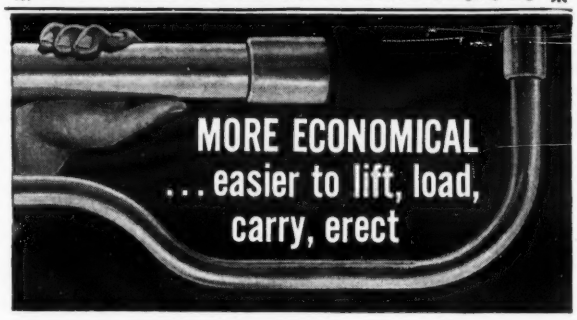
Alcoa Aluminum Joining Materials

■ Welding—IG (Inert Gas) Welding Electrode, Coiled Welding Rod, Straight-Length Welding Rod, Welding Flux ■ Brazing—Sheet, Coiled Brazing Rod, Straight-Length Brazing Rods, Brazing Flux ■ Soldering—Sheet, Solder, Solder Flux

Alcoa distributors and jobbers can give you information on joining aluminum. Additional technical assistance can be obtained from your nearest Alcoa sales office.

ALCOA ALUMINUM
WELDING MATERIALS

For more details circle NED-1054 B1 on enclosed inquiry slip



Alcoa Aluminum Electrical Rigid Conduit*

■ Light weight—weighs only ⅓ as much as steel conduit ■ Easy to cut, bend and thread—without special tools ■ Corrosion resistant—no maintenance under normal service conditions ■ Nonsparking for safer installations ■ Competitive in price for initial savings as well as future savings

Available from local distributor or jobber stocks for fast, dependable delivery.

*Approved by Underwriters' Laboratories, Inc.

ALCOA
ROME CABLE
DIVISION

For more details circle NED-1055 B1 on enclosed inquiry slip

Quick delivery of any Alcoa Aluminum product on this page from your local Alcoa distributor or jobber!

- Prompt Service
- Fully Stocked Warehouses
- Complete Technical Information

Check Your Yellow Pages
Under "Aluminum"
OR
Mail Coupon for Additional Information

ALUMINUM COMPANY OF AMERICA
859-B Alcoa Building, Pittsburgh 19, Pa.

Please send me the following:

- ☐ ALCOA ALLOY 6262-T9 SCREW MACHINE STOCK FOLDER
- ☐ ALCOA ALUMINUM FASTENERS BROCHURE AND SAMPLES
- ☐ ALCOA ALUMINUM ABRASIVE TREAD PLATE BROCHURE AND SAMPLE
- ☐ ALCOA ALUMINUM ELECTRICAL RIGID CONDUIT BROCHURE
- ☐ ALCOA WELDING AND BRAZING METAL SELECTION CHART
- ☐ "HOW TO DESIGN WELDED ALUMINUM STRUCTURES"

Name_____
Title_____
Company_____
Street Address_____
City_____ Zone_____ State_____

ALCOA ALUMINUM
Distributed Nationally... To Better Serve Your Immediate Needs

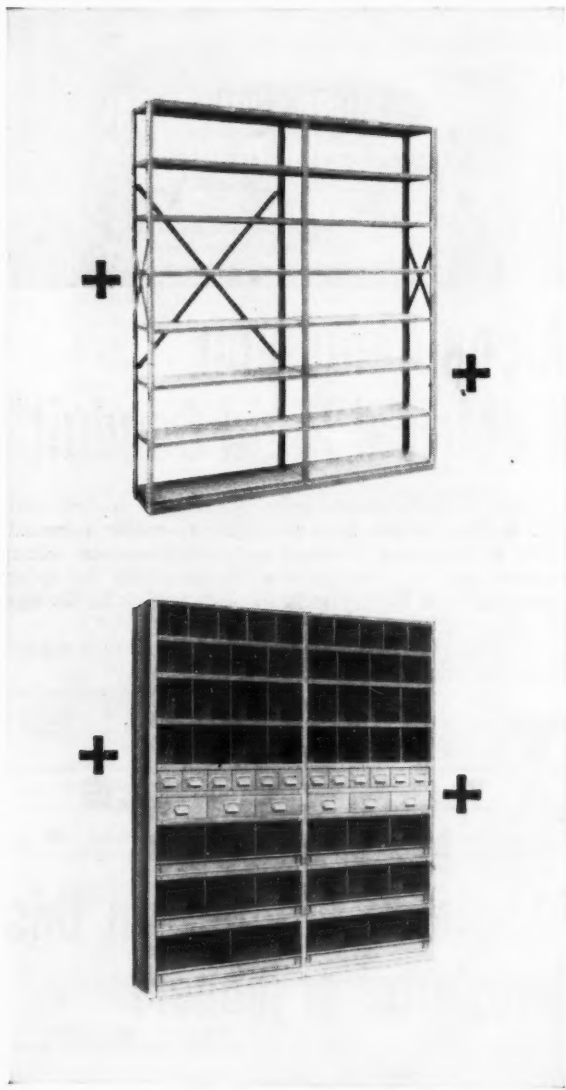
Whether you require the close tolerance needed in a satellite—or the economical production necessary for a 10c toy . . . DUDEK & BOCK is your most dependable source for springs, wire forms and stampings. Years of know-how *quality control* guarantee you top performance at lower cost.

Valuable FREE BROCHURE

Phone DICKENS 2-1020 *for estimates and delivery dates*

DUDEK & BOCK
SPRING MANUFACTURING CO.
4014 W. GRAND AVE. • CHICAGO 51, ILL.

For more details circle NED-1059 B1 on enclosed inquiry slip



ADD UP THE PLUSSES AND YOU'LL GET THE ANSWER!

Boltless brackets give complete adjustability

DeLuxe steel shelving by Royal features these significant extras: I-beam uprights for extra strength, double-thick steel end panels to take extra weight. Patented boltless construction allows 15-minute section assembly—without tools. Meet changing needs more easily with a wide range of shelf units, bins, doors, drawers and dividers. Simplicity of design. Flexibility in use. Easy adaptability to other makes. You can't beat the convenience! You can't beat the service! Call or write DeLuxe Metal Products Division, ROYAL METAL MANUFACTURING COMPANY, Dept. 25-B, One Park Avenue, New York 16, New York.

DELUXE

For more details circle NED-1060 B1 on enclosed inquiry slip

New Literature & Catalogs

Industrial Pumps

Blackmer Pump Co.—Power driven, variable capacity, hand, truck, aluminum transporter, and liquefied gas pumps, as well as proportioning systems and strainers are reviewed in descriptive 8-page Bulletin 1. These units range in capacities from 0 to 1800 gpm and handle liquids ranging from volatile and nonviscous to medium and high viscosity types.

For more details circle NED-1061 B1 on enclosed inquiry slip

Blast Cleaning Machines

Pangborn Corp.—Pushbutton controlled LK and LM Rotoblast Table-Rooms are designed to blast clean pieces ranging from small parts to castings or weldments up to 10 ft wide and weighing as much as 6 tons. Dimensions and specifications of eight table-rooms, including a new twin-table type, are given in 12-page Bulletin 805.

For more details circle NED-1062 B1 on enclosed inquiry slip

Conveyor Wheels & Hoist Trolleys

Grey Hub Trolley Wheel Co.—Plain, flanged, and geared wheels for all conveyors, and hoist trolleys, and rollers are detailed as to design and construction in 14-page catalog. Trolleys are made in 1/8 to 5-ton capacities, fit all type beams from 3 in. up, and feature adjustable, close headroom.

For more details circle NED-1063 B1 on enclosed inquiry slip

Nondestructive Testing Equipment

Sperry Products Co.—Ultrasonic testing, portable industrial x-ray, and magnetic particle inspection equipment and supplies are detailed in 12-page illustrated Bulletin 00-105. Their principles of operation and applications are described.

For more details circle NED-1064 B1 on enclosed inquiry slip

Industrial Radioisotopes

Information on the various types of industrial radioisotopes and services available from the Commercial Products Division are contained in 80-page illustrated Catalog D. Included are a number of sealed sources and bulk isotopes, several services, and details of gamma irradiation equipment and shipping containers, plus many medical products. Available only by writing on company letterhead to Atomic Energy of Canada Ltd., Box 93, Ottawa, Canada.

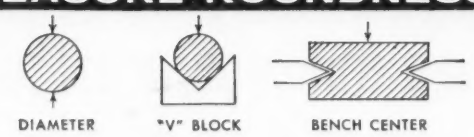
For more details circle NED-1065 B1 on enclosed inquiry slip

How Motion Pictures Serve Industry

Eastman Kodak Co., Audio-Visual Service—"Movies at Work" is title of 14-min, 16-mm color and sound film which demonstrates many ways motion pictures can serve industry. It emphasizes do-it-yourself productions and the tailoring of films to meet special problems. Film shows camera and projection equipment and film available to the in-plant producer. It can be obtained without charge for individual showings.

For more details circle NED-1066 B1 on enclosed inquiry slip

HOW DO YOU MEASURE ROUNDNESS



Out of roundness consists of an odd or even number of lobes or bumps with regular or random spacing about the part circumference. Not all of these types can be measured or even detected by the more common measurement methods.

Measurements by diametrical or "V" Block methods are a calculated risk — they seldom tell the full or correct roundness story. Both methods are completely insensitive to certain types of part lobing.

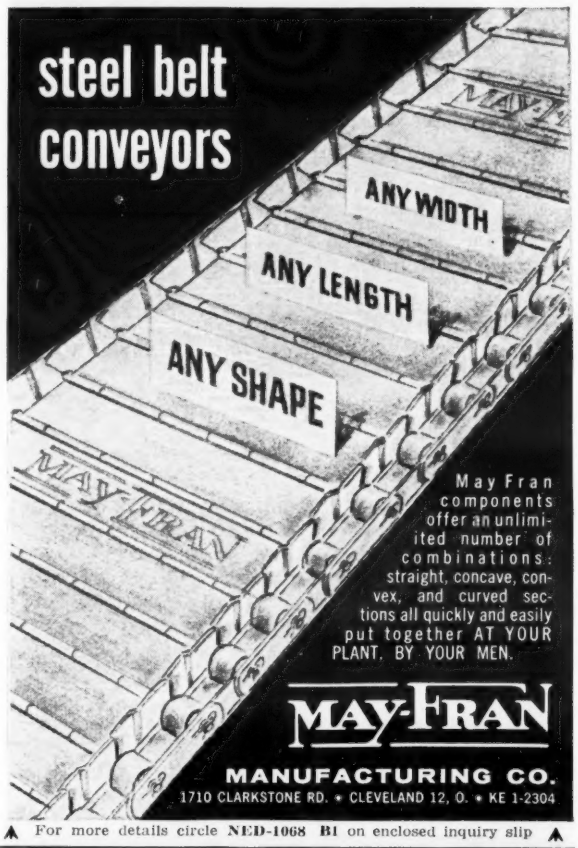
Center type measurements are sensitive to all types of out of roundness—but the measurements are questionable in the high or ultra-precision fields. Very few plants have the means or program to control center and center hole error factors to the necessary degree.

Radial measurements using an ultra-precision spindle and in some cases using a master round, are the only method which give a full and accurate measurement of out of round.

Write for "Roundness Measurements" and determine the reliability of your present method.

Cleveland INSTRUMENT COMPANY
A SUBSIDIARY OF THE BENDIX CORPORATION
6220 East Schaaf Road • Cleveland 31, Ohio

For more details circle NED-1067 B1 on enclosed inquiry slip



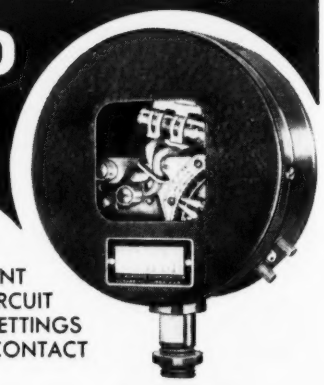
May Fran components offer an unlimited number of combinations: straight, concave, convex, and curved sections all quickly and easily put together AT YOUR PLANT, BY YOUR MEN.

MAY-FRAN MANUFACTURING CO.
1710 CLARKSTONE RD. • CLEVELAND 12, O. • KE 1-2304

For more details circle NED-1068 B1 on enclosed inquiry slip

5,000 psi.

MERCOID PRESSURE CONTROL



OUTSIDE ADJUSTMENT
VISIBLE ON/OFF CIRCUIT
VISIBLE PRESSURE SETTINGS
SEALED MERCURY CONTACT

OPERATING RANGE 500 to 5,000 psi.

AVAILABLE TYPES

DXA-21
minimum differential 450 psi.
DXA-521
minimum differential 200 psi.
DXS-221
minimum differential 150 psi.

WRITE FOR BULLETIN O-21

THE MERCOID CORPORATION
4201 Belmont Ave., Chicago 41, Ill.

For more details circle NED-1069 B1 on enclosed inquiry slip

NEW STAINLESS STEEL BODY

used by hundreds of famous manufacturers

LOW PRICE—LONG LIFE
AIR CYLINDERS

- 3/4" Bore—1-1/16" Bore—1 1/8" Bore
- Single Acting
- Double Acting
- Nose, Pivot or Double end mount
- Stainless or high carbon piston rods
- Hexagon Non-Rotating piston rod
- Built-In Solenoid valve
- Built-In Manual valve
- Mirror finish Stainless Steel tubing
- "U" cup seals not "O" rings
- Exclusive BIMBA Rolled-In construction

1 1/8" Bore
1" Stroke
Double Acting
$5.95 EA.

Hundreds of industry users in electronics, plastics, metalworking, petroleum, food, clothing, beverage have famous BIMBA low cost, long life "Throw-Away" air cylinders. Used for air power clamping, minature air vises, jig and fixture control, automatic work feeding, ejecting, stamping, bending, marking and a thousand and one other uses can be applied.

Write for latest catalog and name of nearest distributor. BIMBA MANUFACTURING CO. 110 Main St., MONEE, ILL.

For more details circle NED-1070 B1 on enclosed inquiry slip

One of these WELLS SAWS is just the tool you need to make maintenance more efficient

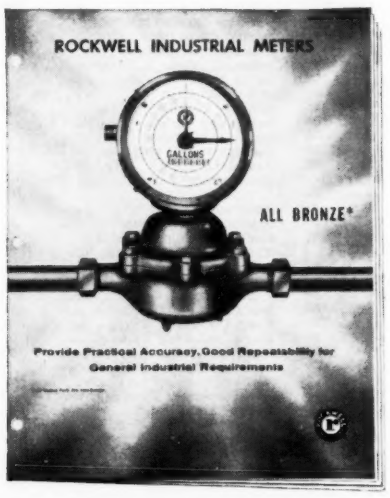
Your metal cut-off jobs, vertical cutting, slotting, notching can be done efficiently and economically at the job-site with one of these convertible Wells saws. The Wells Model 58-B and its smaller companion, the Model 300, can be used as horizontal cut-off saws or as upright saws. Both are available with optional wheels and handle for complete mobility. Both are ruggedly built to Wells Manufacturing Corporation's high standards of industrial quality. Ask your Wells dealer about them today or write for descriptive literature.

Wells SAW SPECIALISTS SINCE 1925

61-2A

WELLS MANUFACTURING CORPORATION
1313 Harding St., Three Rivers, Michigan

For more details circle NED-1071 B1 on enclosed inquiry slip



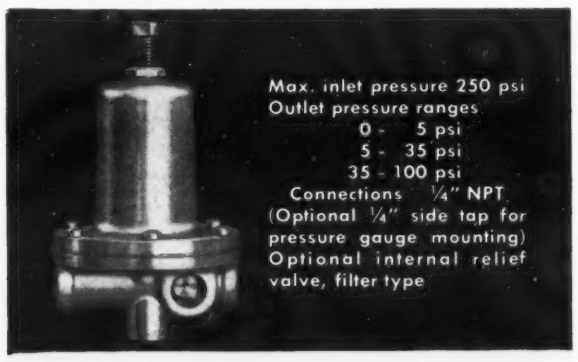
NEW! Low Cost Meters

Send for free bulletin

You can handle up to 95% of all your in-plant metering needs with this sturdy meter design. You'll save on first cost and save substantially thereafter by gaining accurate records over all piped liquids for cost, inventory and usage control. Write for bulletin, PI-666. Rockwell Manufacturing Company, Dept. 126B, Pittsburgh 8, Penna. In Canada: Rockwell Manufacturing Company of Canada, Ltd., Box 420, Guelph, Ontario.

INDUSTRIAL METERS
another fine product by
ROCKWELL

For more details circle NED-1072 B1 on enclosed inquiry slip



NEW Instrument Regulator

The Rockwell "080" instrument regulator is the latest, most versatile for all "in plant" locations where a constant air or gas pressure must be supplied to *recording* and *control* devices. It is also highly useful for controlling paint spray units, air chucks, gas drives, air cylinders and LPG systems. Write for bulletin 1111, Rockwell Manufacturing Company, Dept. 45-B Pittsburgh 8, Pa.
In Canada, Rockwell Manufacturing Company of Canada, Ltd., Box 420, Guelph, Ontario.

"080" INSTRUMENT REGULATOR
another fine product by
ROCKWELL

For more details circle NED-1073 B1 on enclosed inquiry slip

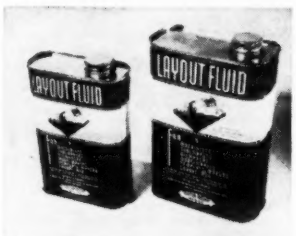
New Processes & Materials

ANTI-SLIP SURFACE FINISH for floors, ramps, walks, stairs

Adhering to wood, metal, cement, and tile, Ruffin is an anti-slip surface finish that is applied with brush or roller. It is a Thiokol polysulfide modified epoxy on which fine or coarse abrasive grains are sprinkled. When used on ladders or metal gratings, the abrasive is mixed with the vehicle. It is weather resistant and is offered in units of about 150 and 1600-sq ft coverage. • **Custom Abrasive Products Co.**, 373 W. State St., Trenton, N. J.

For more details circle NED-1074 B1 on enclosed inquiry slip

LAYOUT FLUID supplied in large brush-top cans



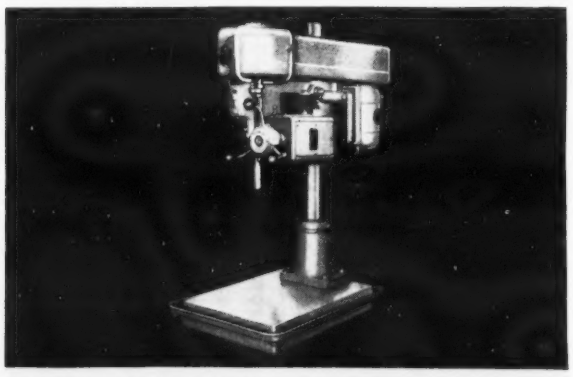
Dark die blue color of this improved layout fluid affords marked contrast with scribed lines made in layout operations. The fluid dries instantly after wiping the surface clean and brushing on. It is now available in 1-pt and 1-qt cans of the brush-in-cap type which make for ease of application. • **Dayton Rogers Mfg. Co.**, 2824 13th Ave. S., Minneapolis 7, Minn.

For more details circle NED-1075 B1 on enclosed inquiry slip

BREATHABLE VINYL is cloth backed, resembles tweed

Perforation process creates invisible pores in Brigadoon coated vinyl upholstery material, allowing it to dissipate heat and vapor as it "breathes." It is printed and embossed to simulate the color, texture, and weave of Scotch linen tweed. Elastic knit backing assures smooth application and durability. The surface is washable and its high-slip matte finish minimizes dirt accumulation. This pattern is offered in beige-white, black-white, two-tone green, two-tone blue, two-tone yellow, and two-tone red color combinations in widths of 54 in. • **Knoll Associates, Inc.**, Textile Div., 575 Madison Ave., New York 22, N. Y.

For more details circle NED-1076 B1 on enclosed inquiry slip



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another fine product by
ROCKWELL

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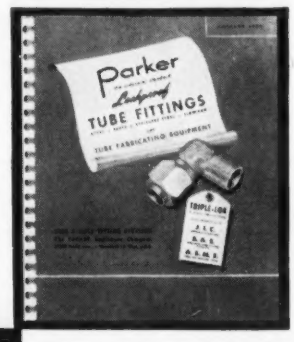

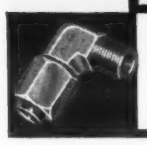

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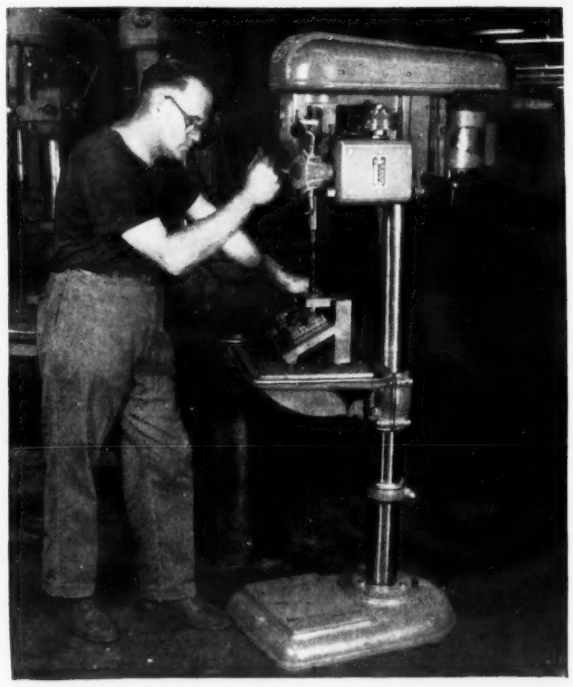

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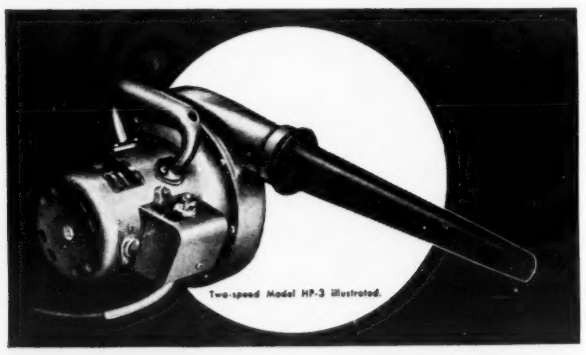

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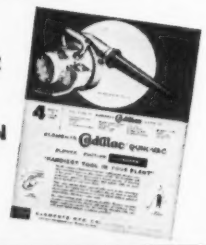

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Chicago 38, Illinois

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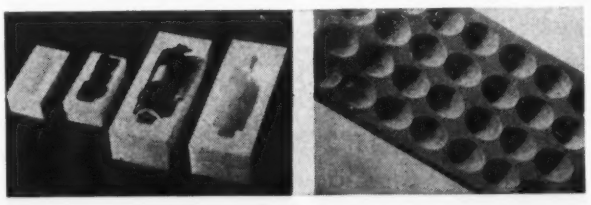

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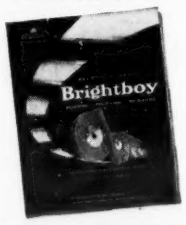

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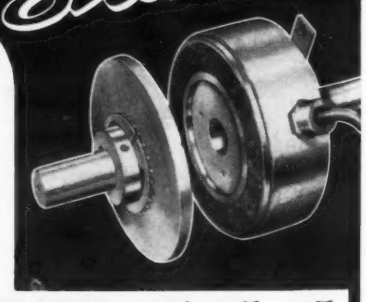

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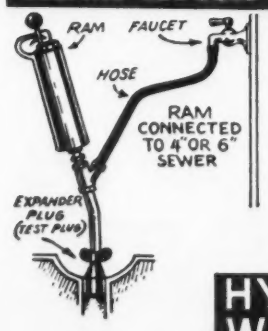

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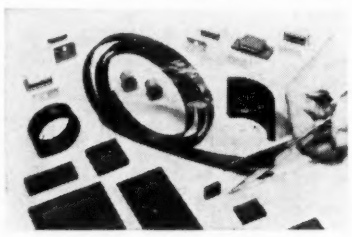

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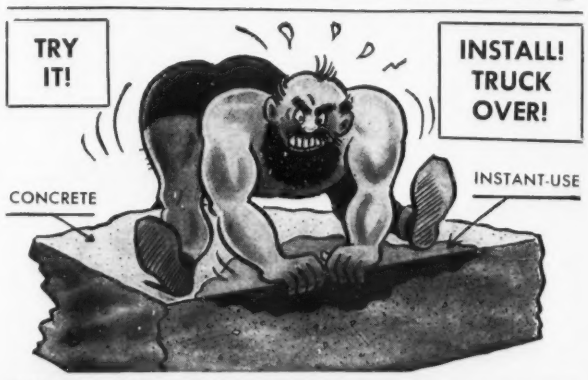

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Name .....
Title .....
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For more details circle NED-1096 B1 on enclosed inquiry slip